CHAPTER

3

3. CONTEXT, ROLE & ISSUES

3.1. Introduction

The purpose of Chapter 3 is to present a focused and strategic synthesis of the Status Quo (SQ) assessment undertaken for Eden District. The desktop synthesis was supplemented by the outcomes of the Eden District Focus Group Workshops, as well as follow up engagements and interviews with key officials in provincial and local government.

In synthesising the key issues, a common thread has been developed. Four strategic themes have emerged that direct the SDF strategies and policies. Importantly, these directives are framed by the spatial issues which are relevant to the District municipal mandate, as well as direction given by SPLUMA, LUPA, the PSDF and other relevant policies.

The SQ assessment is led by the Eden District Municipality's vision for the District and commitments made in the IDP and budgets (of the national, provincial and local spheres of government) that set up a development trajectory for the SDF period.

This Chapter consists of three key sections. Firstly, it provides an overview of the fiscal context of South Africa. Secondly, it unpacks the trends and dynamics that impact on the District such as population demographics and economic shifts. Thirdly, this Chapter provides a synthesis the key spatial drivers and issues that have informed the four themes that form the basis of SDF proposals in Chapter 4.

3.1.1. Framing the Status Quo Informants to the SDF Review

The review of the Eden District SDF is framed in terms of four overarching integrative and connected themes which bring together the strategic, spatial drivers that are fundamental to achieving co-ordinated (spatial) planning for the sustainable growth and resilience of the District. These themes direct the approach to the revision of the District's SDF. The diverse and interrelated sectoral issues and opportunities explored within the key focus areas and related sector studies (as shown in Diagram 9) are distilled into four themes.

The Vision chapter introduced the four spatial themes, that frame the overview of the context, issues and opportunities in Eden District . To recap, these are:

1. A sustainable environment is an economy positioned for growth - The Economy is the Environment
2. Regional Accessibility for Inclusive Growth
3. Co-ordinated Growth Management is Key to Financial Sustainability
4. These themes are underpinned by a fourth driver; effective, Transversal Institutional Integration – we need to plan, budget and manage as one government. This speaks to the institutional context within which spatial planning must take effect.

Before the four themes of Status Quo are discussed in detail, they need to be understood in terms of overarching trends and patterns playing out in Eden District. Associated with these trends are demographic and socio-economic forecasts that are used for planning and budgeting purposes at all spheres of government.

3.2. The Fiscal Context

3.2.1. Increasing Fiscal Austerity

While the municipalities within Eden District are relatively strong within the Western Cape, Eden District nevertheless needs to operate within a difficult economic and fiscal context for the foreseeable future.

The fiscal crunch is due to macro-economic trends and structural weaknesses in the national political economy. Government spending is under severe pressure in the national and provincial spheres. Current trends and messages from national government are that local governments will also experience this pressure. All three spheres of government deliver services in Eden District. In addition, transfers from the national government fund a substantial proportion of local government's work. There

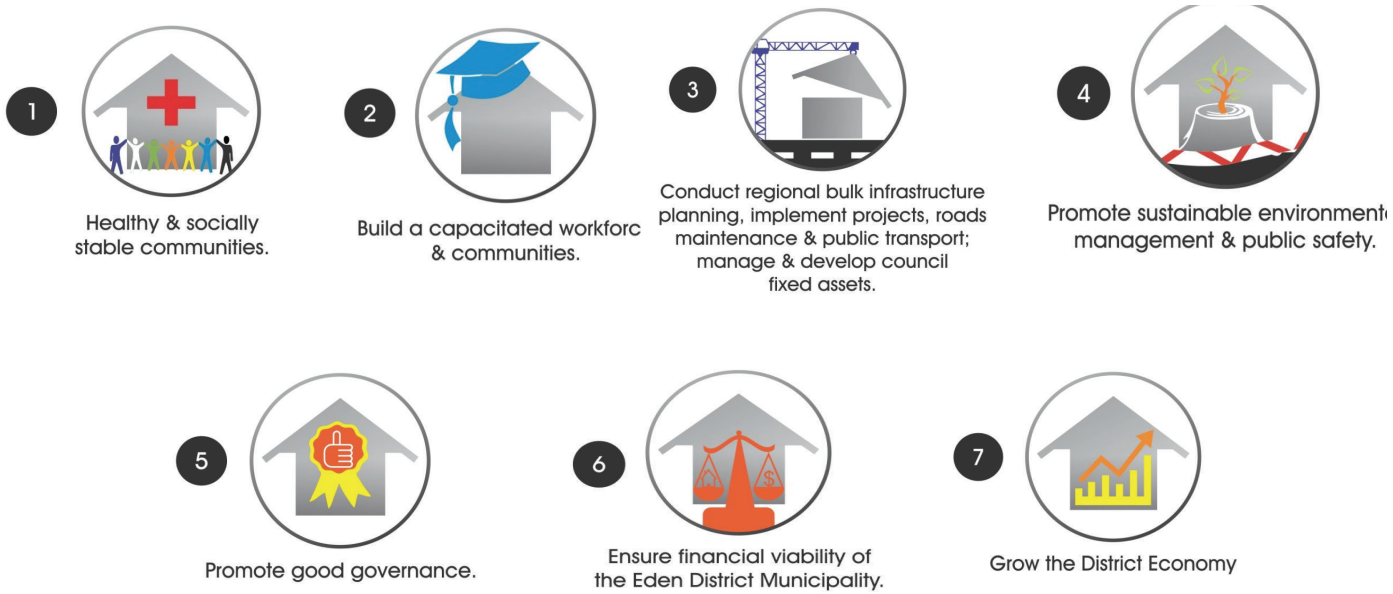
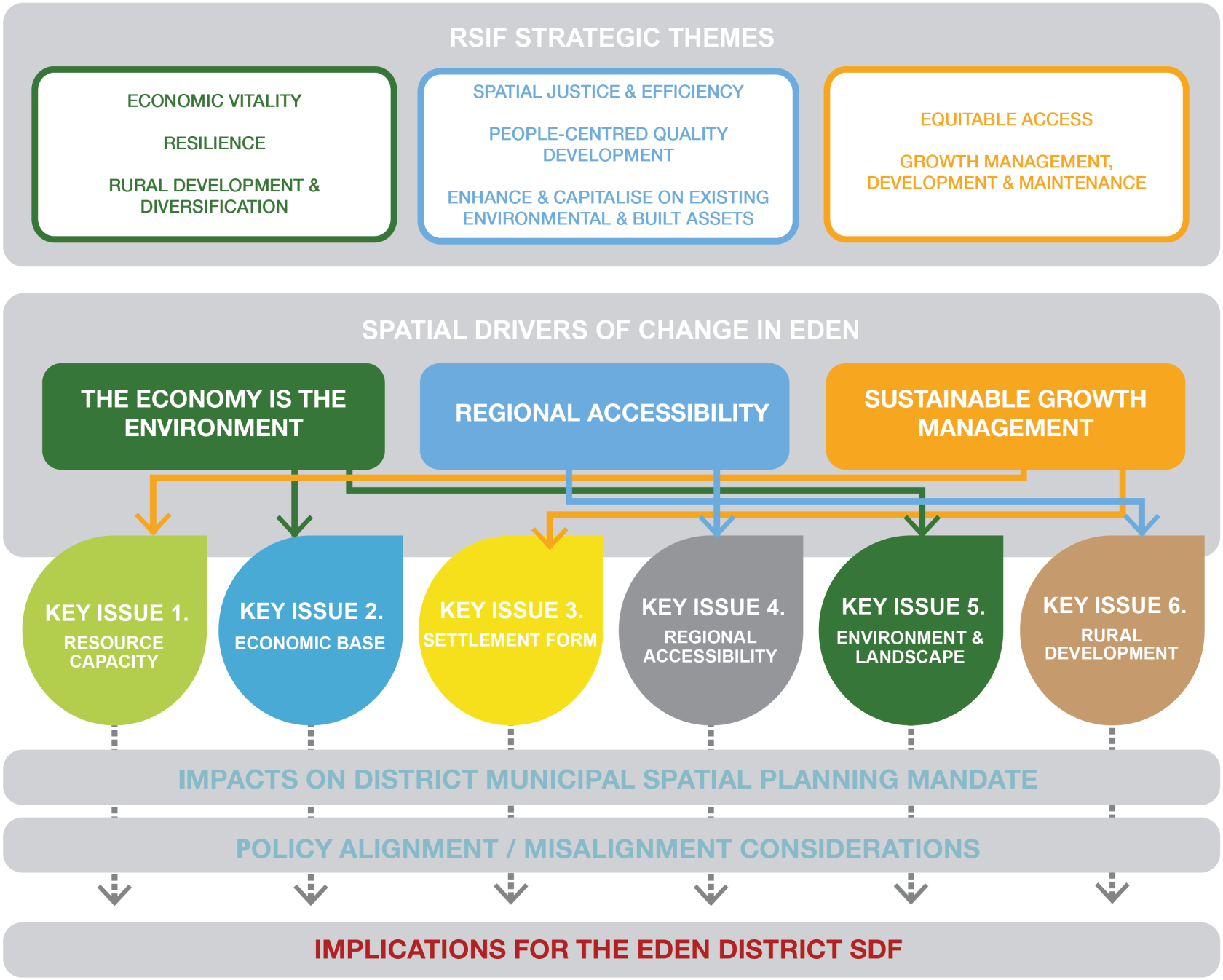


Figure 9. Eden District 2012 – 2017 Strategic Goals



WE NEED TO PLAN AND IMPLEMENT AS ONE GOVERNMENT

Diagram 9. Status Quo Key Issues and Spatial Drivers of Change

is a steady decline in national and provincial government spending in Eden District in the Medium Term Revenue and Expenditure Framework (MTREF) period (Figure 25). National government is placing increasing pressure on local government to reduce its dependency on national transfers, in particular, grants and they are seeking funding and revenues from elsewhere.

The limitation on public resources is also made evident in the limited human capacity in government. This is indicated in the under-expenditure of capital budgets, in limitations on building data and evidence of unregulated development.

According to the National Treasury (Coovadia, CSP, 2017) the economy is characterised by:

- Weak growth;
- Underlying structural constraints are well understood, but require tangible progress;
- Fiscal impact requires a programme of fiscal consolidation;
- Revenue impact, credit rating and public sector debt concerns;
- Deep and practical partnerships across government and with the private sector are essential.

3.2.2. Opportunities Inherent in Urban Centres

In spite of this alarming scenario, South Africa's urban powerhouses can drive growth and create jobs. The National Treasury and the IUDF note that faster, more inclusive urban economic growth is essential for national development and given that both the SA economy and population are increasingly urban-based, urban centres must lead the economic recovery and job growth. Eden District's demographics reflect the national pattern, with a high and increasingly urbanised population.

However households and firms are currently not fully benefiting from the "urban dividend", rather urbanising poverty, not opportunity. Despite significant progress in basic service deliveries, our urban centres still face large challenges in:

- Service reliability: poor asset management and maintenance.
- Housing affordability: supply and demand constraints.
- Physical mobility: transport under-investment and subsidy requirements.
- Growing "second generation" challenges:
    - Urban resilience to climate change (droughts and floods).
    - De-coupling and technology change: energy and water.
    - Fiscal sustainability: housing and transport.

3.2.3. The Economic Imperative for Inclusive Settlements

While it is the RSIF and SCEDP processes are the primary instruments for addressing investments, partnership and economic development initiatives, the Eden District SDF's spatial strategies are informed by the dual crisis of fiscal austerity and the need to improve inclusivity in spatially directing development. Current research demonstrates that in times of economic austerity, inclusivity is an essential precondition for economic growth. This research also demonstrates the role of appropriate spatial planning as a key factor in ensuring inclusive land use management, which promotes integration, accessibility and mixed use settlements.

This SDF therefore frames spatial recommendations in a time of growing anxiety over economic, political, and social divides. The reality that the economy is not delivering prosperity for all and is increasingly bedeviling policymakers and leaders. Standard economic indicators portray an economy adding jobs, growing wages, and boosting output. Yet the uneven distribution of growth and access to opportunity - among both historically disadvantaged groups and an expanding proportion of the population - are calling into question traditional definitions of economic success and conventional policy responses.

Facing these trends and uncertain national leadership, local action will be imperative to addressing economic barriers and challenges that prevent many South Africans from succeeding. This will require reworking and adapting institutions, programs, and relationships across cities and metro areas

> "Cost-cutting is the order of the day. Things are only going to get tighter after the medium-term budget policy statement on 25 October. We're in a vicious cycle. There is no new money to bridge the obvious gaps in the human capital pipeline that would grow the economy. In other words, no money to deal with the half of our children who never get to pre-school, then lose hope by Grade 4, and eventually drop out of school and fail to find work. Consequently, there's no way to grow the pool of skilled labour and thus no way to substantially expand the tax base. At best, we will generate 600,000 jobs – through job creation and replacement of retiring workers – for the million young people leaving school each year. Actually, it's worse than a vicious cycle. It is a vortex that will suck South Africa deeper and deeper into a pit.
>
> Unless we are prepared to unlock the value that already exists in the country, but is not being used properly. The obvious culprit is government, where billions upon billions are stolen or wasted each year. Arguably a time of austerity in the public sector could improve efficiency by recalibrating spending patterns. In reality, more value is likely to be lost as salaries and rent-generating enterprises are protected while real services are cut. It will take leaders of great vision and resolve to get us out of this mess".
>
> (David Harrison, Daily Maverick, 29 September 2017)

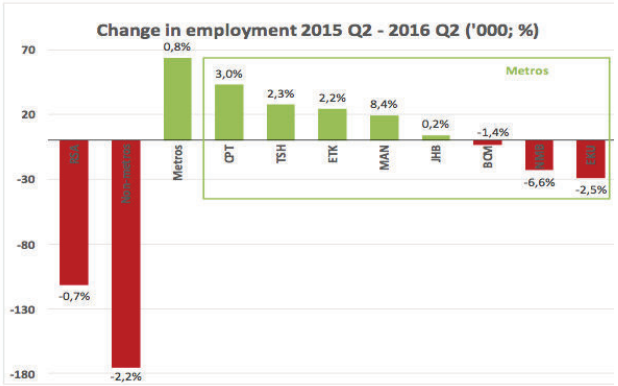


Figure 10. Change in Employment 2015-2016 (National Treasury, 2017)

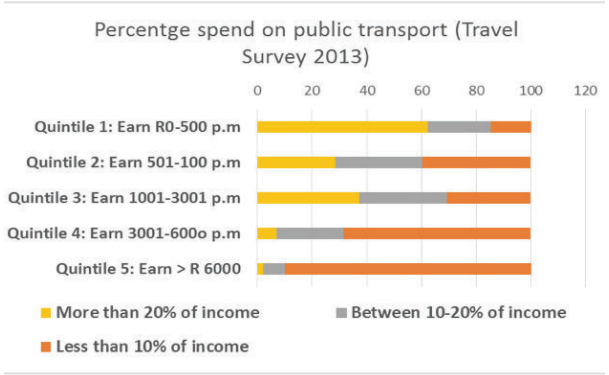


Figure 11. Percentage Spend on Public Transport (Travel Survey, 2013)

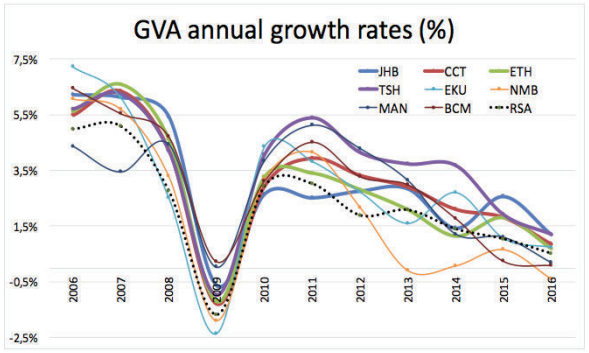


Figure 12. GVA Annual Growth Rates (National Treasury, 2017)

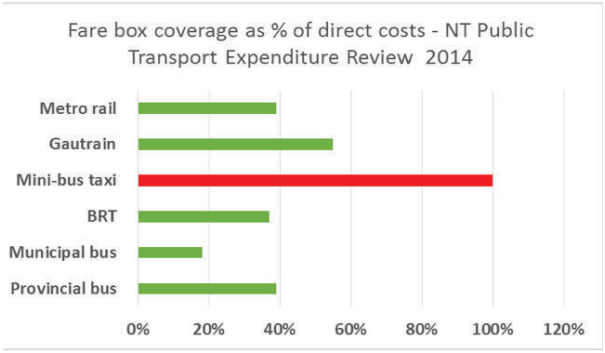


Figure 13. GVA Annual Growth Rates (National Treasury, 2017)

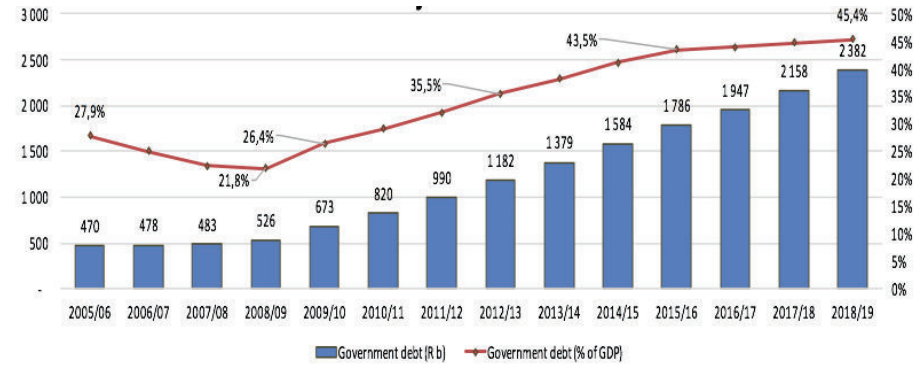


Figure 14. Government Data has not yet Satisfied a share of GDP (National Treasury, 2017)

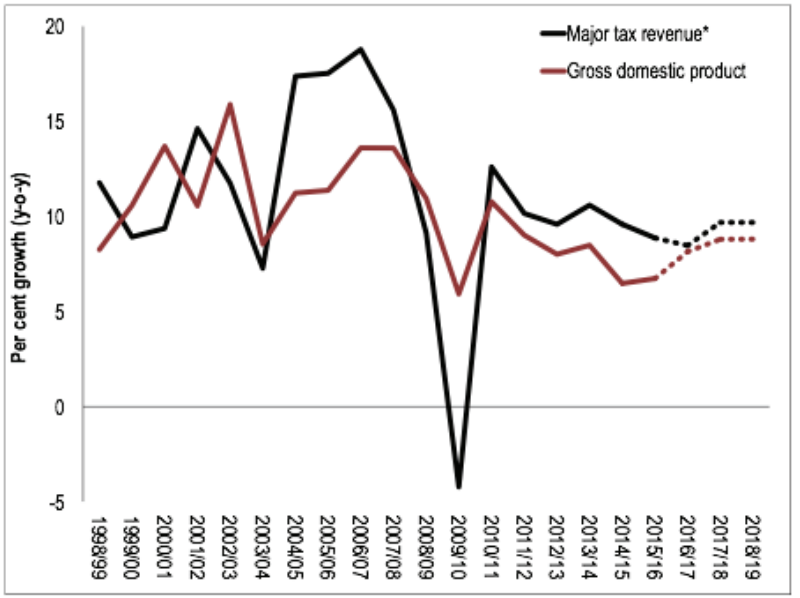


Figure 15. Tax Revenues vs GDP (National Treasury, 2017)

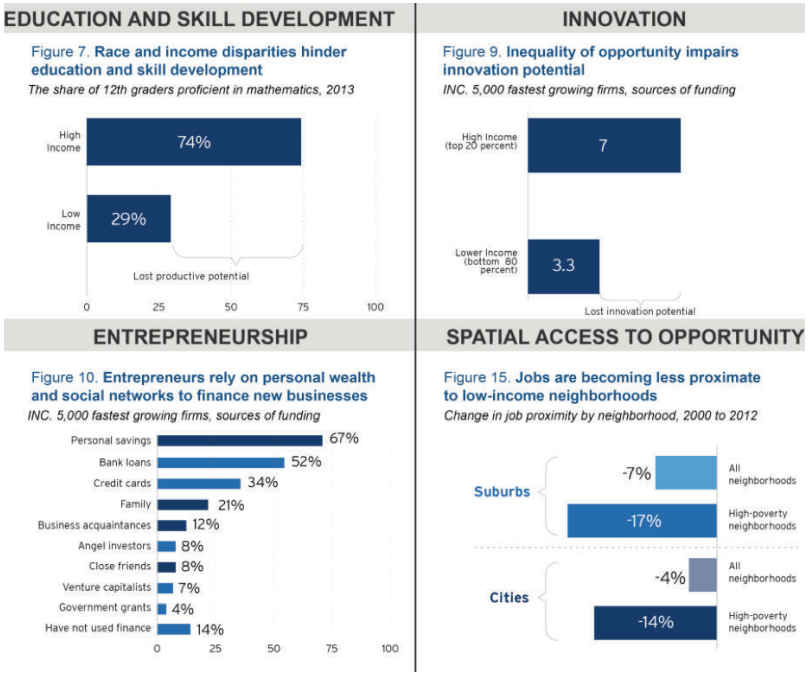


Figure 16. Improving Inclusivity (Brookings Institute, 2017)

It is necessary to develop a framework that outlines how regions could expand access to opportunity for more firms, workers, and communities. Economic development organisations (often local institutions) could take part in the development of local coalitions dedicated to these goals.

The establishment of the spatial strategies that can support connection between economic inclusion and growth, the implications for businesses and workers, and focus on how the spatial drivers of change can aid in supporting regional economic strategies that can eliminate barriers that are hindering inclusive growth.

Recent research from Katharine Bradbury and Robert Triest found that metro areas where low-income children experienced higher upward mobility underwent faster subsequent per capita income growth. In other words, greater equality of opportunity yields greater growth.

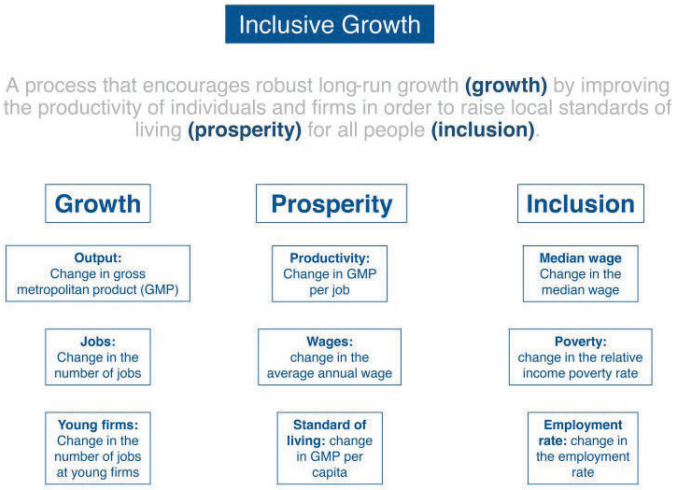


Figure 17. Inclusive Growth (Brookings Institute, 2017)

	Dynamism	Skills	Access
Practice	Support entrepreneurs and business acceleration services (productivity, exports, worker training)	Motivate employers to invest in workers Help employers determine the skills they need	Promote physically accessible locations
Policy	Streamline permit processes and regulations Occupational licensing	Promote pre K-12 education and workforce development Help eliminate other work barriers (e.g., childcare, criminal records etc.)	Promote helpful land use and zoning reforms Support transit investments
Partnership	Coordinate firms with accelerators/incubators, cluster groups and extension partnerships	Provide sector-based training partnerships Provide work-based learning opportunities for youth	Place-conscious strategies with community development organizations, metropolitan planning organizations, and transportation agencies

Figure 18. Moving Inclusive Economic Growth from Theory to Action(Brookings Institute, 2017)

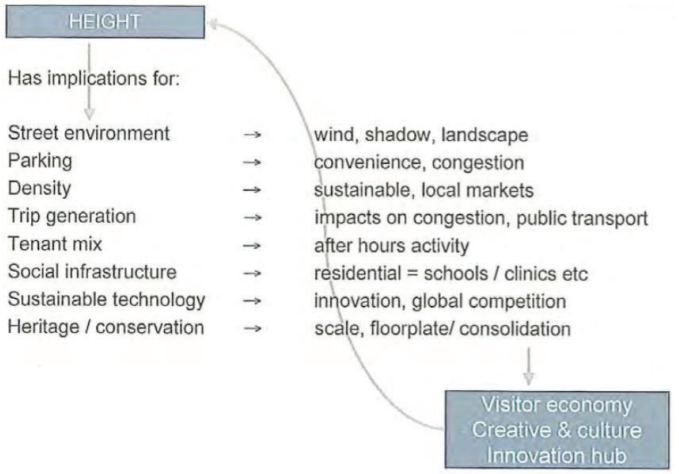


Figure 19. The Economics of Urban Form (Brookings Institute, 2017)

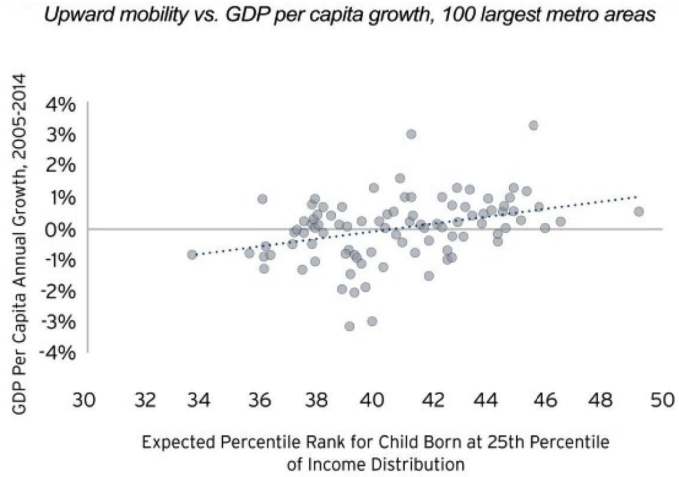


Figure 20. Metro Areas with Higher Equality of Opportunity Experience Faster Economic Growth (Brookings Institute, 2017)

3.3. Population Trends and Dynamics

The SDF takes a strategic view on the forecasts of trends and dynamics in the District, from demographic to economic shifts. However, it is necessary to consider their reliability and to what extent they should inform the SDF's response to the spatial challenges, issues and opportunities within the District. These are less reliable in forecasting future patterns and demand. It is important to understand what is driving the change, so that the framework for sustainable, inclusive and well-managed growth addresses the correct factors. Data and the interpretation of the implications for the District is inconsistent and highly variable between different sources and is an imperfect informant to long-term planning. While the data tells a story, the desired spatial outcomes for the Eden District should direct the SDF proposals and projects.

3.3.1. Demographic Shifts

There are a number of demographic indicators that need to be understood and that inform the District SDF. They are indicators of what has changed in the past and suggest the nature, scale and location of need, demand and opportunities. They should enable one to understand whether Eden District will need to accommodate smaller or larger households, and what proportion of these will be single headed households, or households of single people. The SDF also needs to interrogate what these past trends mean for the form and location of development aimed at the inferred accommodation needs of these households, especially if they are transitory, very mobile households seeking opportunity. What does this mean for the need for public facilities and social services and their location in the context of the relative demographic position in the province and the country and competing demands from diminishing government funding.

3.3.2. Population Growth

Eden District's population makes it the second largest non-metro district municipality in the Western Cape. According to the forecasts of the Western Cape Department of Social Development, Eden District's population is estimated to be 613 124 in 2017. While the District population will continue to grow in the foreseeable future the rate of growth is slowing, albeit this rate remains slightly higher than the national average and on a par with the province. The Western Cape Government's estimates are that by 2040 the District's population will be 721,637, growing at a conservative rate of 0.79%. The more recent Community and Household Surveys findings suggest that this is an under-estimate of the likely population in 2040, particularly with regard to projected in-migration.

This population expansion increases the overall need for sufficient growth management across all governmental sectors. The current influx from the

Eden grew from **454 919 (2001)** to **574 265 (2011)** and predicted to grow to **721 367 (2040);**

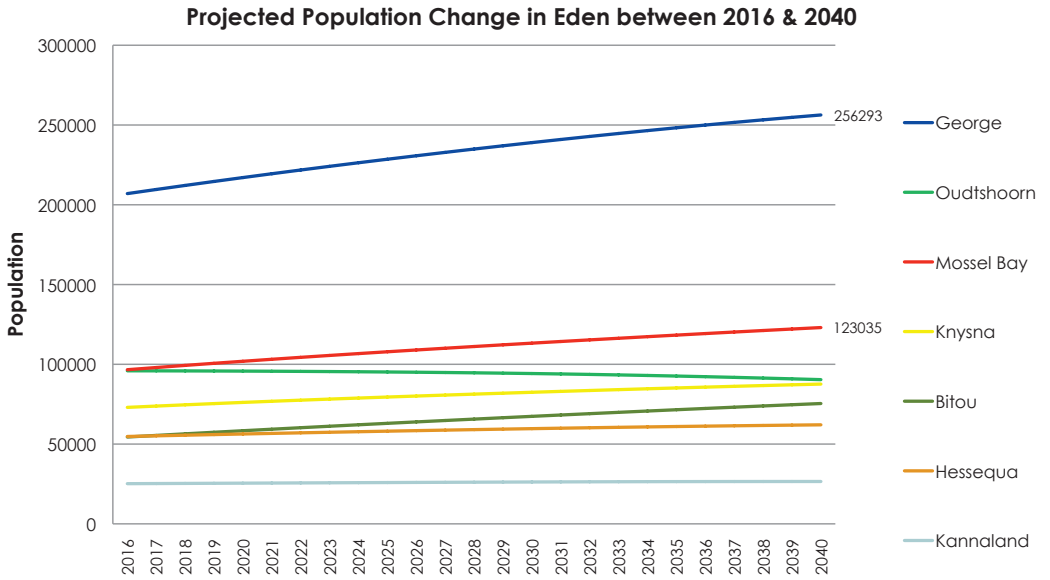


Figure 21. Eden District Population Profile to 2040 (PWC, 2014

Forecast Population Projections for 2040				
Municipalities	**Population in 2016**	**% Increase**	**Additional Number of Residents in 2040**	**Annual Average Growth Rate**
George	206 999	23.8	49 294	1.0
Oudtshoorn	95 926	-5.8	-5 533	-0.2
Mossel Bay	96 615	27.3	26 420	1.1
Knysna	73 002	20.0	14 609	0.8
Bitou	54 413	38.6	21 005	1.6
Hessequa	54 761	13.3	7 309	0.6
Kannaland	25 176	5.4	1 371	0.2
Total (Eden)	**194 412**	**18.9**	**114 475**	**0.8**

Figure 22. Eden District Population Increase and Decrease Between 2016 and 2040 (adapted from PWC, 2014)

Eastern Cape into Bitou could bring additional stress to Eden District's infrastructure, delivery backlogs and its unemployment levels. The government is struggling to catch up with existing population needs and faces the challenge of keeping up with new demand. However, it is said that although this movement is a common occurrence, the population is transient and in search of employment in bigger cities like George (considered the highest urban growth concentration in the District) and Mossel Bay. Many people traverse the District to reach larger metropolitan areas such as Cape Town.

Importantly, for the SDF, within Eden District this growth is unevenly distributed. Bitou is facing the highest growth rate, followed by Knysna and George. Kannaland's population is declining. Oudtshoorn and Hessequa's growth is marginal. According to the Price Waterhouse Coopers (PWC) study, quoted in the DEA&DP Southern Cape RSIF, the forecast population of Eden District by 2040 will be 721 367 (75% of which will live in Mossel Bay, George, Knysna and Bitou).

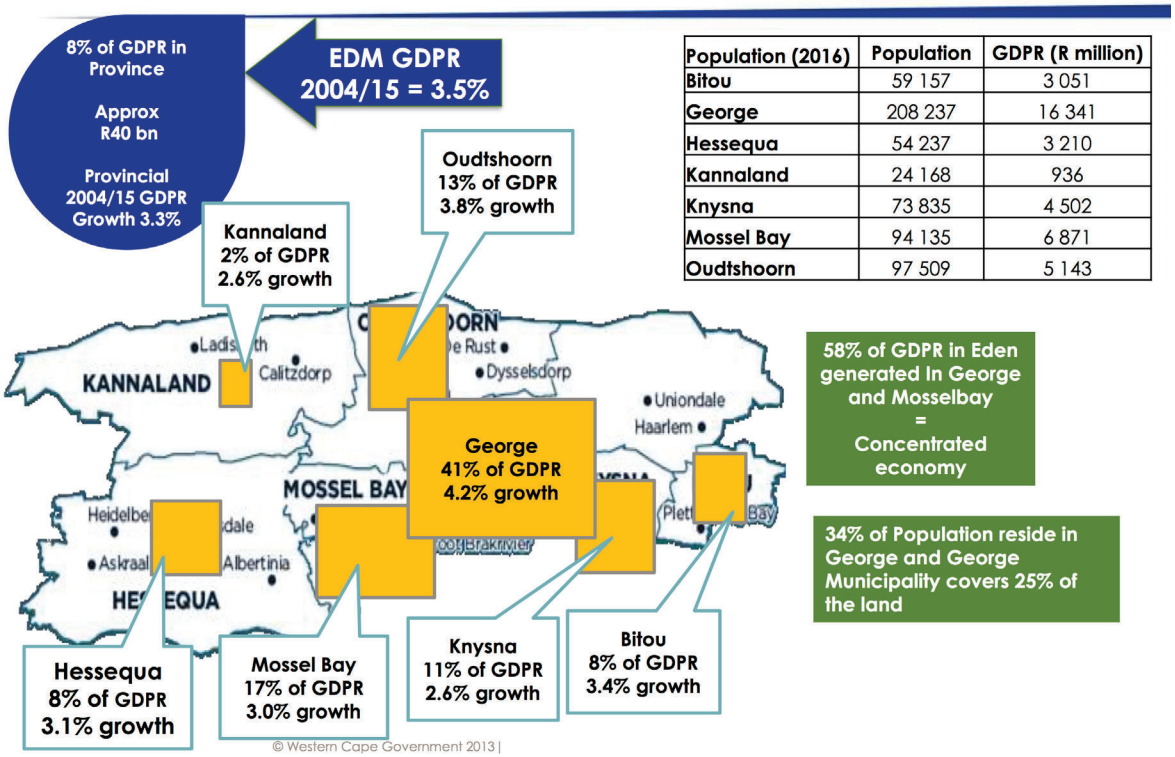
3.3.3. Household Growth

According to Census 2011, there were 164 110 households within Eden District in 2011. The 2016 Community Survey estimates that the number of households increased to 189 345 in 2016 which equates to 15.4% growth off the 2011 base. This total is forecast to increase over the next five years to reach 647 627 by 2023. This equates to an approximate 8.0% growth off the 2017 base estimate (SEP, 2016). Households are growing at a significantly higher rate than the population. Households are increasingly single-headed or are migrants in search of opportunity and are mobile in the context of searching for employment and are therefore potentially transitory.

3.3.4. Economic Shifts

Similarly, economic indicators tell us where the economy is growing and declining in space and where employment is growing and declining. This begs the question, how does this relate to where the population growth is and where it should be accommodated to ensure proximity to jobs.

As with the population distribution across space, the economy of the Eden District is distributed unevenly across the District. The areas of highest population growth, existing and projected, also do not necessarily correlate with where the economic growth rate is stronger.



Population (2016)	Population	GDPR (R million)
Bitou	59 157	3 051
George	208 237	16 341
Hessequa	54 237	3 210
Kannaland	24 168	936
Knysna	73 835	4 502
Mossel Bay	94 135	6 871
Oudtshoorn	97 509	5 143

Figure 23. Economy of the Eden District in Spatial Context (WCG, 2017)

Municipality	Contribution to employment (%) 2015	Trend 2005 - 2015	Trend 2010 - 2015	Employment (net change) 2011	2012	2013	2014	2015	2016e
Kannaland	4.4	1 441	1 986	86	329	454	130	987	-68
Hessequa	11.1	4 512	4 304	328	764	1 040	495	1 677	-254
Mossel Bay	15.9	5 875	4 589	489	853	1 225	699	1 323	-132
George	35.6	14 975	11 305	1 338	2 091	2 720	1 593	3 563	346
Oudtshoorn	12.9	3 466	3 432	263	539	907	385	1 338	50
Bitou	8.6	4 593	3 232	442	581	735	566	908	64
Knysna	11.6	3 733	3 230	359	621	752	600	898	44
Total Eden District	**100**	**38 595**	**32 078**	**3 305**	**5 778**	**7 833**	**4 468**	**10 694**	**50**
Western Cape Province	-	418 445	326 986	38 314	58 799	81 285	45 807	102 781	15 050

Table 3. Eden District Employment Growth (MERO, 2017)

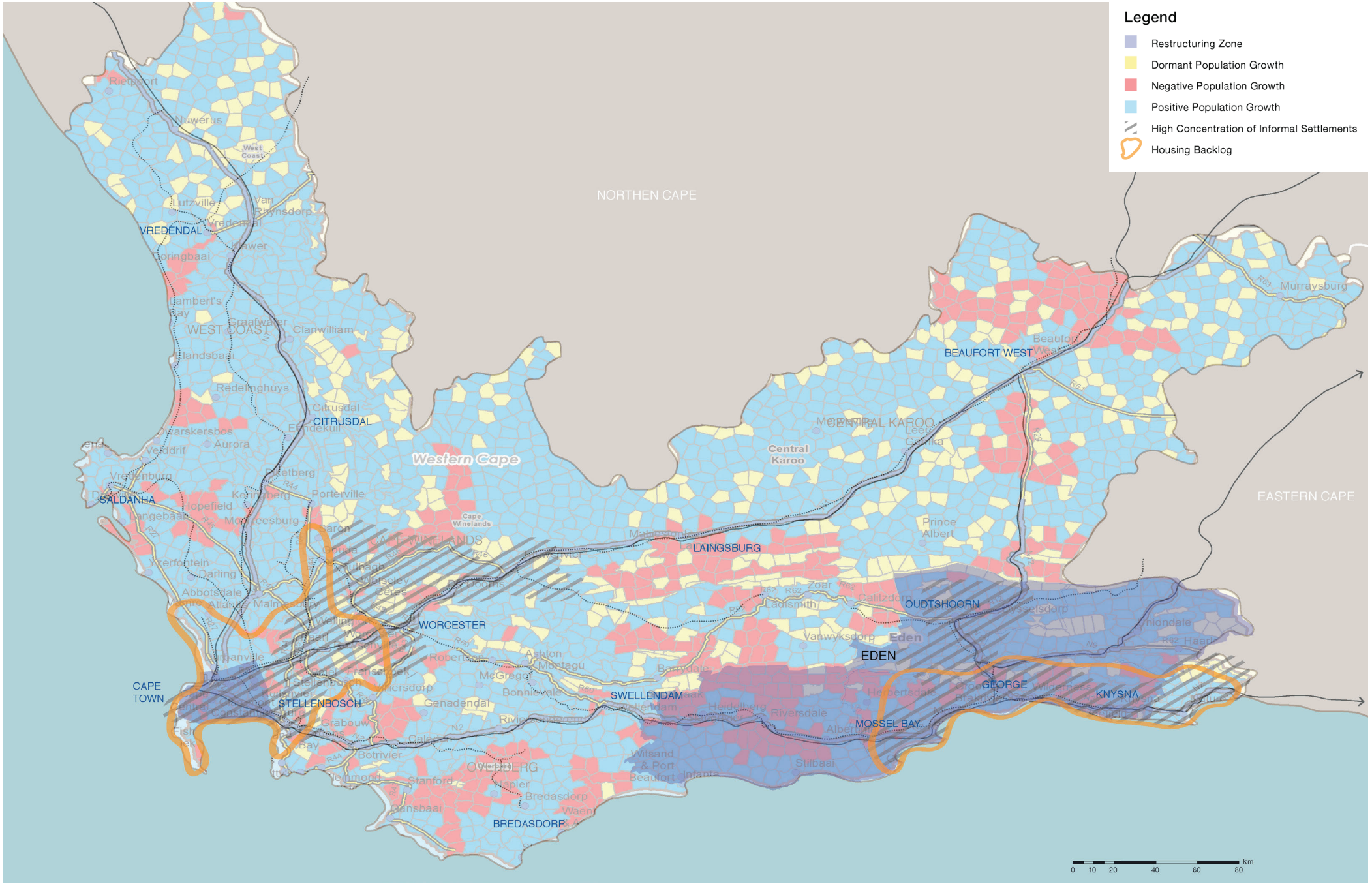


Figure 24. Western Cape Population Growth (adapted from WCG, 2014)

3.3.5. Employment and Household Income

Table 3, drawn from the WCG's 2017 Municipal Economic Review and Outlook (MERO) indicates employment trends in the District. Importantly, economic growth does not necessarily translate into job creation. Jobless growth is a global trend and Eden District is not excluded from this trend. However, George experienced the highest rate of economic growth, as indicated by the Gross Domestic Product per Region (GDPR), as well as the highest employment growth (MERO, 2017). George and Mossel Bay employ just over half of the Eden District's employed population. While Oudtshoorn outperformed other municipalities, bar George, in GDPR growth, this did not translate into corresponding employment growth. Knysna and Kannaland experienced the lowest average GDPR growth at 2.6%.

3.3.6. Spatial Opportunity

Extensive work has been done by the WCG on the Growth Potential of Towns (2014a) based on a series of indicators. This supports the preparation of the SDF in that while we understand where and how the population is growing and where the economy is growing, we also now have a more robust understanding of where opportunity is for development based on economic opportunity and / or what must be done to create opportunity to align with the needs of the population (Figure 26).

3.3.7. Climatic Shifts and the Erosion of Biodiversity

Climate change is considered to be one of the greatest changing dynamics of our era and it is becoming increasingly apparent that nature and its resources are not unlimited. As a result of climate change, critical biodiversity areas, wetlands and agricultural land are being lost or degraded by uncontrolled urban encroachment and pollution. This in turn threatens regional economic assets, public health and safety.

Another negative effect of climate change involves natural disasters such as severe storms and floods, fire risks, an increase in sea level and limited access to water. Increasingly, disaster risk management is the routine business of government. In the context of climate change managing disasters comes at a public, economic and household cost. Poorer households are less likely to recover from the affects of environmental disasters and as a result, have a have a greater reliance on the government. As extreme events will take place more frequently in the future, it is more sustainable to implement interventions to reduce disaster risks rather than having to recover from the impact of extreme disasters. This can be achieved by retreating activities from vulnerable locations and managing activities on the edges of these areas.

Furthermore, the natural resources that make up the biophysical environment form the basis of all primary economic activities such as agriculture, forestry, fishing, and mining. These natural resources provide raw materials, energy, food, water, land and environmental and social services that support human activities. Humans are dependent on these resources in order to survive and therefore mitigating against the effects of climate change should be a key concern of Eden District.

The effects of climate change-related hazards can pose a significant threat to the the District's economy, ecosystems and population. Between 2009 and 2010, the costs that were caused by drought damage was estimated at R300 million and the 2011 Eden District floods estimated at R350 million and the 2012 floods estimated at R500 million (WCG, 2014). It has also been calculated that the cost of damage to infrastructure alone, as a result of the Knysna Fires in 2017, is close to R500 million (Anderson, 2017). These damages place a substantial financial burden on service delivery, as well as indirect costs of social, environmental and well-being. If the effects of climate change are not urgently addressed and mitigated the negative projected impacts of climate vulnerability will continue to place a financial burden on the District.

Furthermore, cultural landscapes, agricultural land and biodiversity areas are being eroded by urban development, agricultural practices and alien vegetation. Sprawling, peripheral and rural settlement and land transformation is a leading cause of habitat loss and thus biodiversity loss. Sprawl also exacerbates air and water pollution, both of which degrade environments and further reduces biodiversity. New construction often increases erosion of land cleared for development. This in turn increases stream siltation. As the land area for natural ecosystems shrinks, there is less natural capacity to filter pollutants and detoxify waters and less capacity to recycle nutrients and compost organic wastes. Thus, as sprawl increases, species and ecosystem services decrease.

Ecosystem degradation and subsequent loss of ecosystem services tends to harm poor rural communities more than affluent city dwellers. The poor have limited assets and are more dependent on common property resources (e.g. fire wood), while the wealthy are buffered against loss of ecosystem services by being able to purchase basic necessities and scarce commodities (Eden District Municipality, 2016a)

In conclusion, it is clear from these key trends and issues is that need continues to grow, but the means to address these needs is reducing. Therefore, the SDF must consider:

- How to do more with less;
- Ensure that the direction it gives to urban growth is targeted to maximise efficiencies and optimise returns on investments;
- Shape development form so as not to exacerbate risks that will increase costs, which cannot be met without sacrificing resources to meet additional needs elsewhere, and
- To create a mechanism to ensure that implementation proposals are carefully prioritised and co-ordinated and put through a robust project preparation methodology. This should be done within a carefully planned pipeline to guarantee that the fundamentals are in place to make certain that limited resources

are spent wisely and the likelihood of a return on the investment is guaranteed.

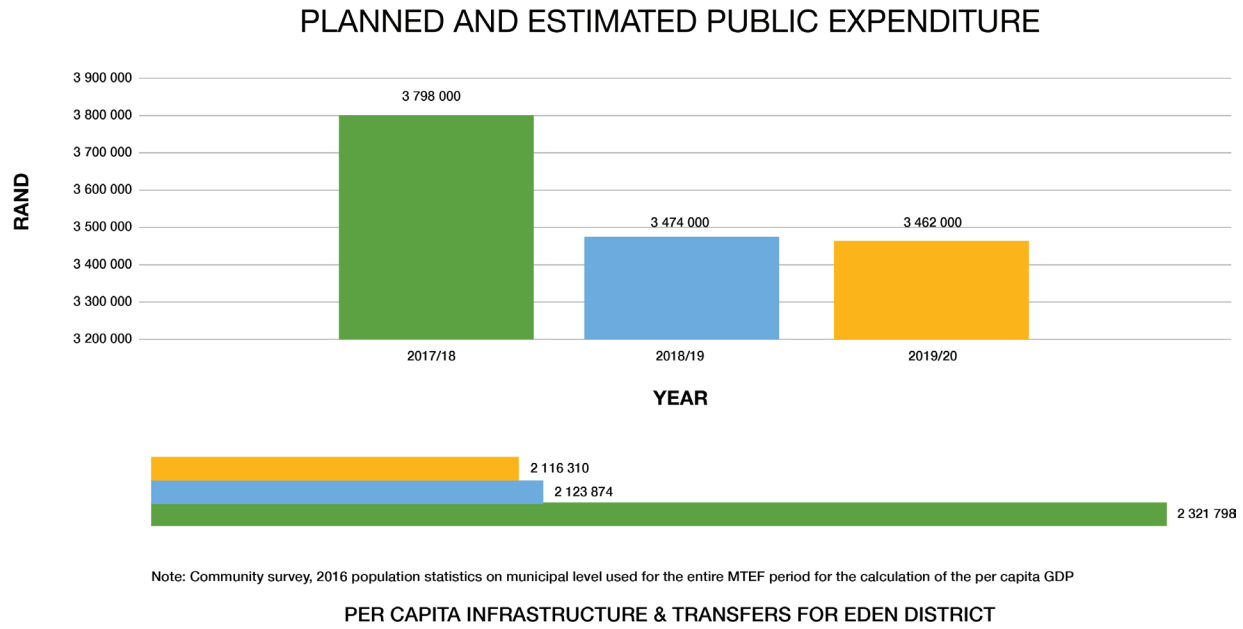


Figure 25. Eden District Planned and Estimated Public Expenditure (MTREF)

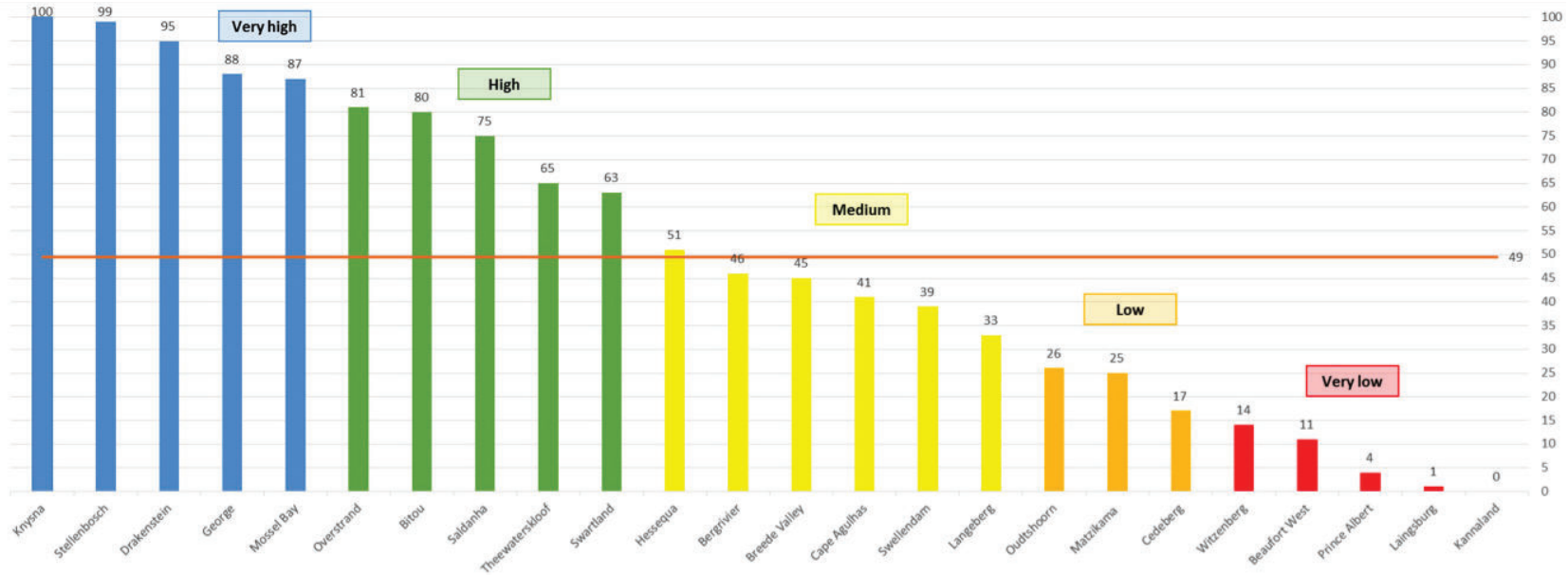


Figure 26. Eden District Growth Potential of Towns (WCG, 2014a)

3.4. The Economy is the Environment

A sustainable environment is an economy positioned for growth.

3.4.1. Provincial Environment and Economy

National Biodiversity corridors across South Africa are extensive stretches of land that aim to conserve and protect biodiversity and ecological systems (Figure 28). The importance of these corridors is to ensure healthy, connected landscapes and habitats. In turn, these corridors support local industry (agriculture) and communities.

The major corridors that span through Eden District include the Eden to Addo biodiversity corridor, which connects the Western Cape and the Eastern Cape along the coast, and the Gouritz Cluster Biosphere Reserve Corridor. This Biosphere Reserve is one of the two UNESCO Biosphere Reserves that cover a large portion of the District. The District itself can be split into two biomes, predominantly fynbos (Garden Route Landscape), Nama-karoo and succulent (Klein Karoo Landscape) (Figure 30).

The natural disaster risks pertaining to the District include drought and fire. Reduced surface water availability (due to decreased rainfall events) and increased demand from urban and agricultural uses, threaten water security in the region. There is a lack of water storage due to topographical constraints and shared bulk water systems and water transfer schemes in the region are limited.

The Western Cape Fynbos biome is both fire prone and fire adaptive (Midgeley et al, 2005). The region's fire interval under natural conditions is usually 12-18 years between fires. This number is expected to increase by 40% in the next 100 years (Midgeley et al, 2005). Some of the knock on effects include increased wild fire in areas with adapted alien vegetation and therefore escalated densities of combustible materials. The loss of indigenous species is also expected to increase, which will make fires more frequent and more difficult to manage.

3.4.2. Overview

The Eden District economy is the second largest of the district economies in the Western Cape outside of the Cape Metro (MERO, 2017). The Eden District economy has been the fastest expanding region in the Western Cape Province – it hosts four of the Province's top-ten leading non-metro municipalities i.e. Mossel Bay, George, Knysna and Bitou.

In Eden District and the municipal areas within it, the bio-physical environment forms the basis of its economy - providing a diverse natural resource base. The economy has become increasingly diversified, but its roots lie in agriculture and forestry. The economy optimises the District's competitive, climatic and geomorphological conditions, oil and gas and the downstream manufacturing industries that build on these primary sectors.

The District's outstanding natural beauty is made up of diverse wilderness and agricultural landscapes, estuaries and lagoons, mountain backdrops and coastal settings, including the verdant landscapes of the coastal belt. These features make it a significant leisure, tourism, lifestyle and retirement economic destination. It is also recognised internationally under the brands of the "Garden Route" and the "Klein Karoo" - driven largely by the quality of life offered by the region. This in turn has driven the growth of the tertiary sector that now predominates, but is still rooted in the environmental attributes of the region. Both the primary and tertiary economic sectors, which feed into and off the secondary manufacturing sector, are important to job creation. The bio-physical environment also supplies the economy with resources such as water, land, clean air and energy and processes the by-products of the economy - waste water, emissions, etc. - as an ecological service.

There is a vital relationship between the District's economy and its natural environment. Similarly, changing environmental systems dynamics, as a result of climate

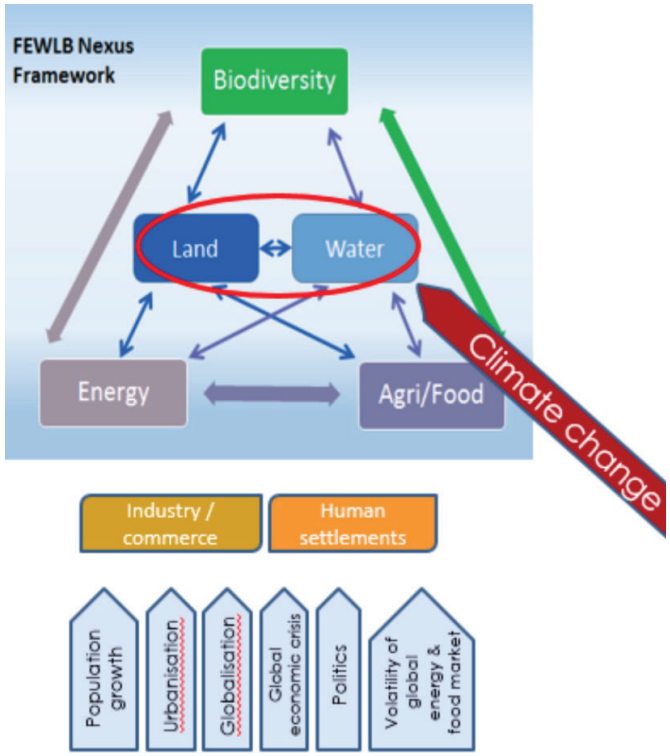


Figure 27. The Food-Energy-Land- Biodiversity (FEWLB) Nexus Framework developed for the Western Cape Provincial Context (Source: Midgley and New, 2014)

change will present a risk and associated costs to the economy and demand adaptation. Therefore, it is critical that the natural systems and the environmental resource base of the economy is managed and that disaster risks are mitigated to ensure the resilience of the District's economy. This in turn impacts on the population's economic and social resilience.

"South Africans already consume more resources per capita than people in any other African nation. As previously disadvantaged people strive to increase material wealth and the comforts and conveniences they have been denied before the new political dispensation, the strain on natural resources and biodiversity will only increase" (Eden District Municipality, 2016a).

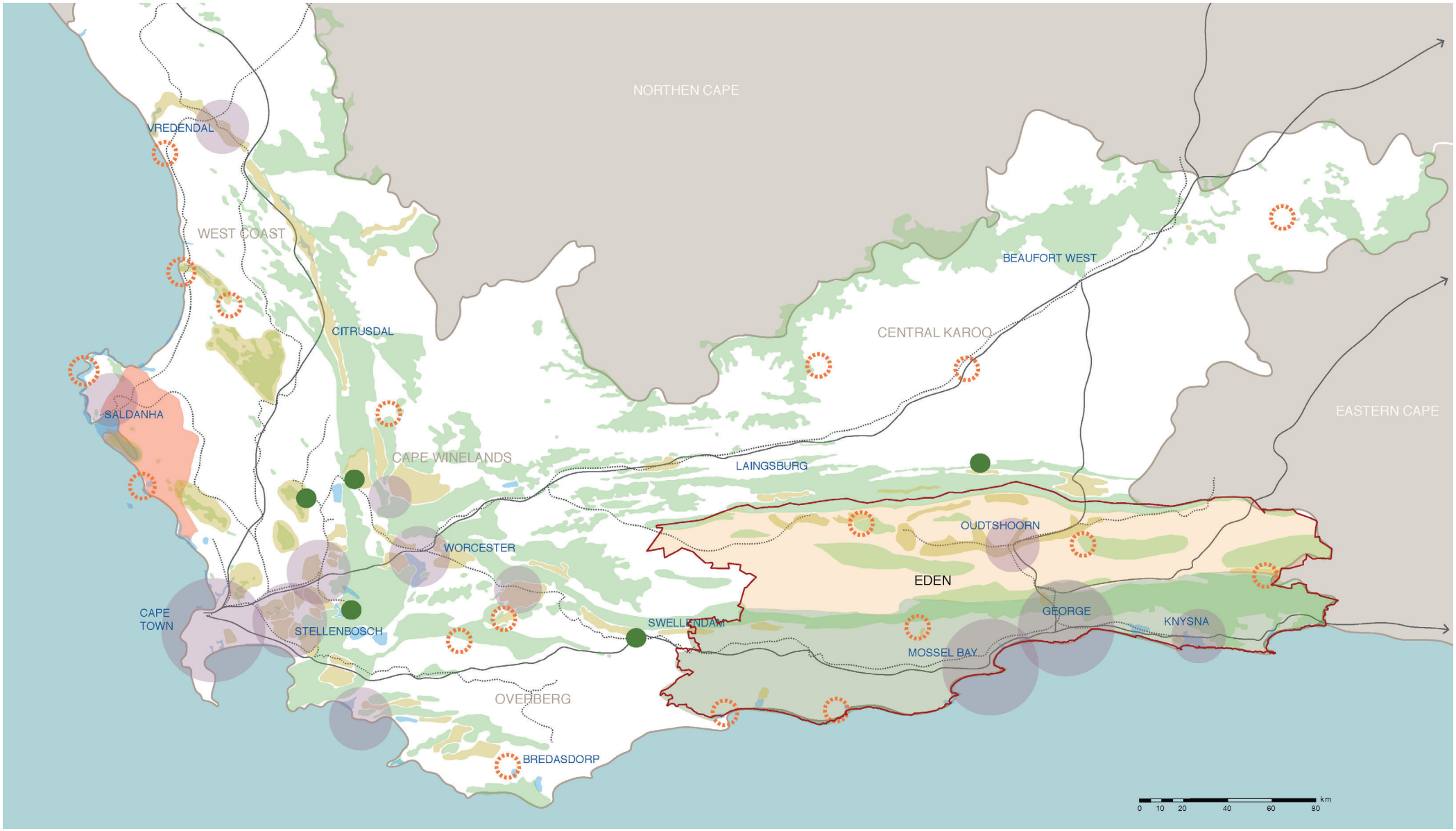


Figure 28. Western Cape Biodiversity Corridors (adapted from WCG, 2014)

The Eden District's IDP strategies to grow the District economy and promote environmental sustainability must therefore work hand in hand.

3.4.3. Environment and Economy Spatial Legacies

What spatially relevant environmental and economic assets and challenges have been inherited from the past?

The natural systems in Eden District are of global significance. Their dynamic nature and their appeal means that they are sensitive and susceptible to over-exploitation or inappropriate use.

3.4.3.1 Compromised Natural Systems, Climate Change and Natural Disasters

Environmental systems globally have been in flux, no less so in Eden District, which is prone to climate extremes and disasters due to its physical location, topography and the climatic conditions. The most frequent natural disasters in Eden District that occurred between 2005 and 2017 were droughts, flooding, veld fires and environmental degradation. The weather data shows that an increase in temperature of approximately 1.0 °C has occurred over the last 50 years, particularly in mid-to late summer. Additionally, the number of annual rain days has decreased, more so in autumn.

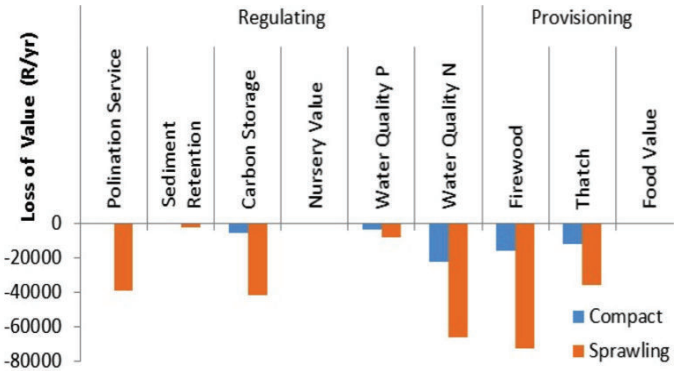


Figure 29. Loss in Value of Ecosystem Services Under the Different Growth Scenarios for Each of the Regulating and Provisioning Services

3.4.3.2 Coastline

The coastline is an economic asset to Eden District's tourist and lifestyle economy. Through uninformed planning, unregulated development and a *laissez-faire* approach to coastal management, a large portion of the inherent value of the coastline has already been lost. Furthermore, the general attraction of the coast as a space for recreational pursuits, places enormous pressure on the coastal zone as a whole and especially those sensitive areas that remain intact.

At the same time, the coastal zone is under strain from extreme events associated with climate change. If the coastline remains intact, it will provide a functional buffer that protects inland infrastructure and settlement systems from the full impacts of these events. Conversely, breaches into the coastal zone by human made systems, may place inland infrastructure and settlement systems at significant risk.

3.4.3.3 Rivers, Floodplains and Estuaries

River, floodplains and estuaries are a significant attraction and amenity for the District. They are a resource and an ecological service. Estuaries are also the part of the river system that most people use for recreational purposes and are uniquely beautiful spaces However, these water systems are compromised as a result of:

- Changes in regime flow caused by inappropriate development, overgrazing, catchment hardening and degraded wetlands. This results in more floods in the wet season and reduced base flow in the dry season. Development in the floodplains and estuary functional zones have placed a number of people at risk and reduced ecological infrastructure benefits.
- Over abstraction of water in the catchments leads to reduce flow in estuaries and reduction in ecosystem functioning and impacts on recreational use.
- Modification of freshwater runoff further impacts on estuaries.

3.4.3.4 Biodiversity

Eden District is host to an extraordinary legacy of formally and informally conserved areas including National Parks, Provincial Nature Reserves, Protected Areas, Marine Protected Areas, World Heritage sites (such as the Swartberg Nature Reserve), Biosphere reserves and RAMSAR sites. These incredible resources form the critical foundation of the tourism economy in the region. Biosphere reserves are given international recognition due to their unique natural, historic and cultural attributes. Innovative research, learning, job creation, youth development, relationship building, responsible tourism development and project implementation form part of a Biosphere Reserve's activities.

However, biodiversity is compromised in Eden District as a result of:

- Demand for development to cater for population growth or development that is perceived to bring economic return;
- Poor land use practices that have caused soil erosion;
- Infestation by invasive alien plants which in turn enhances the risk of veld fires;
- Unsustainable extraction, and
- Historically, the social, economic and financial undervalue of biodiversity, placing the District's biodiversity resources under stress.

3.4.3.5 Decline in Agriculture

While agriculture is in decline as an economic sector and is producing fewer jobs it remains an important sector of Eden District's economy and important employer of unskilled or low skilled work seekers. While the sector is influenced by macro-economic developments and climate change, largely beyond the control of the municipalities, land use decision making on the peripheries of towns

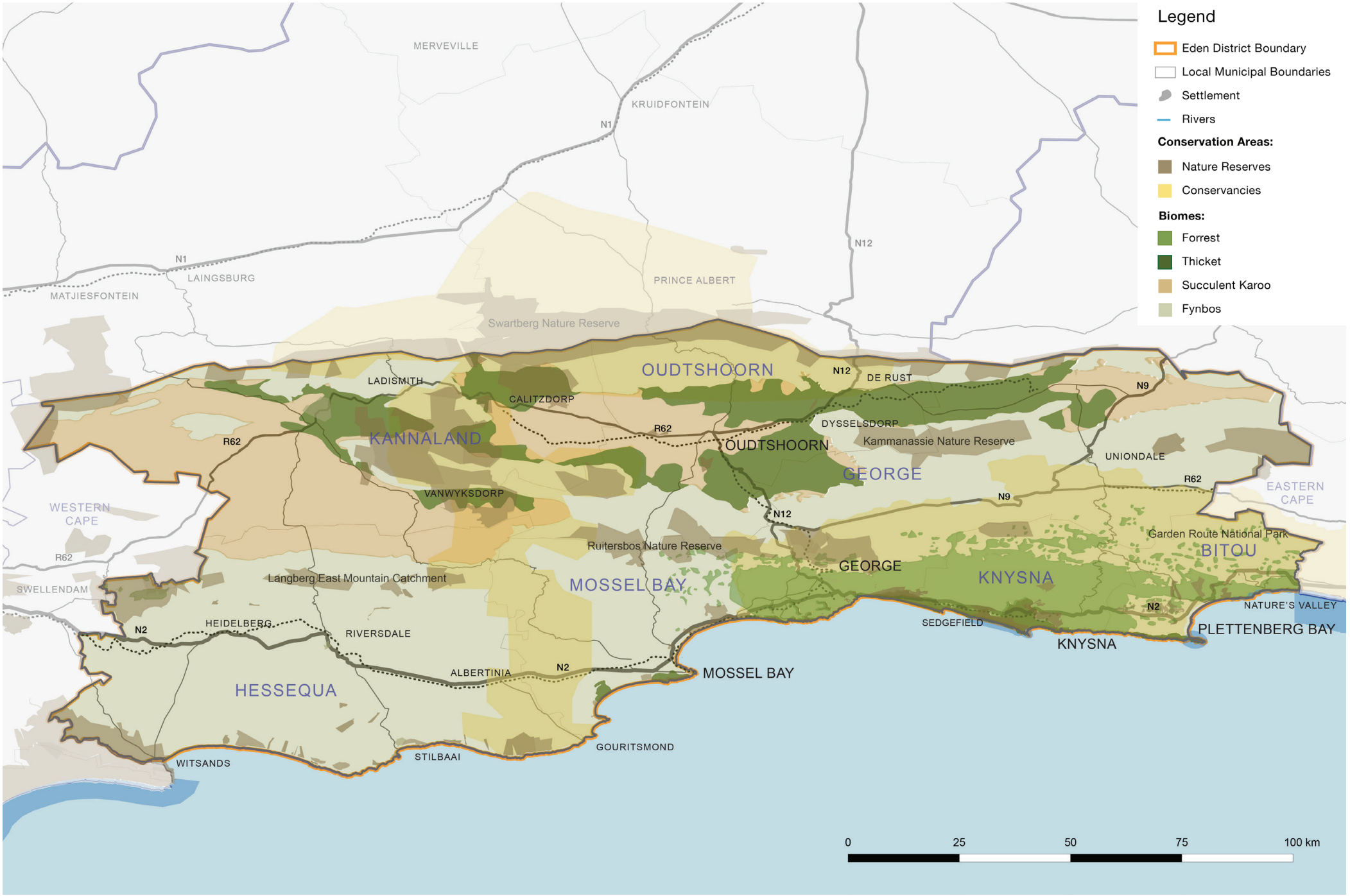


Figure 30. Conservation and Biomes in the Eden District

and further afield, has also contributed to the decline of the sector. This is a result of land being converted for settlement development.

3.4.3.6 Decline in Forestry

Commercial forestry in the Western Cape is in a state of turmoil. In 2001 the National Cabinet decided to exit 45 000 ha of commercial forestry in the Boland and Outeniqua by 2020, but reversed this decision in 2008 when it agreed to return half of this land back to forestry. This has caused uncertainty in the industry, brought re-planting to a standstill and the resultant shortage in sawlog supplies contributed to the closure of 11 small independent sawmills. The situation was aggravated by the 2005 wild-fires in the Tsitsikamma region which damaged 14 300 ha of plantations. 22 500 ha of plantation land now lies in limbo until the Department of Agriculture, Forestry and Fisheries (DAFF) finds an operator to replant it. Uncertainty also surrounds the alternative use of the remaining 22 500 ha that have been exited (PSDF. 2014).

3.4.4. Current Environment and Economy Spatial Patterns

What are the spatial manifestations of current economy and environment challenges and strengths?

3.4.4.1 Economic Shifts

The tertiary sector now dominates the Eden District's economy, contributing 72.24 % to the GVA in 2015 (Bloom, 2016). Tourism plays a key role in this sector linked to, and supporting the retail, wholesale, catering, accommodation and real estate sectors. Collectively, the District's natural capital and its varied scenic and cultural resources are the assets that provide a unique lifestyle offering and make the Western Cape the country's premier tourism destination.

it is recogniced that the scenic landscapes of Eden District are major tourism draws and as such are a key economic resource for the District. Currently, with the exception of the Robberg Peninsula and the RAMSAR wetlands, none enjoy formal protection status (PSDF Specialist Study, 2013).

The trade and business sectors that service the people that live, work and visit the District are growing sectors in the Eden District economy. While the finance, insurance, real estate and business services, as well as the wholesale, retail and manufacturing are the dominant sectors, these are to a certain extent "downstream" sectors from the legacy sectors such as oil and gas, timber, agriculture and tourism to some extent. Timber, agriculture and tourism are important in that they provide low-skilled jobs and stimulate downstream industries that also have a range of skill requirements. Migrants to the District are both rich and poor, however the evidence suggests in-migration is inflating the population growth rate and constraining the increase in per capita incomes and causing unemployment - slowing down the decline in poverty rates.

While the agricultural sector in Eden District Municipality provides 8.9% of jobs - there are many more jobs in agri-processing and the food value chain. The importance of protecting the agricultural base of the economy should not be under-estimated. The majority of agri-processing plants cluster around George, the region's service centre while a secondary cluster is associated with Oudtshoorn. As a result, George and Oudtshoorn employ the largest percentages and absolute number of people working in agriculture.

From a resource perspective water scarcity is a growing concern. Existing water sources are limited in the several towns including Plettenberg Bay. Reduced surface water availability due to decreased rainfall events and increased demand from both urban and rural threaten water security in the region.

3.4.4.2 Disaster Risk

The District's Disaster Risk Assessment Update dated 2013 identifies the following risks in Table 4.

3.4.4.3 Air Quality

Current monitoring of air pollution shows that pollutants are generally within globally benchmarked limits and some of the best in the country (DEA&DP, 2017). Out of

2014 Risk Assessment	
Priority Hazards Identified (2005)	**Additional Hazards Identified (2013)**
Drought	Seismic Hazards
HAZMAT:Road, Rail	Petro-chemical Fire Hazards
Floods	Alien Plant Invasion
Slope Failures	Predator Animals
Road Accidents	Structural Integrity Old Gouritz Bridge
Animal Diseases	Storm Surges
Dam Shedding	Coastal Erosion (sea Level Rise)
Human Diseases	Service Disruptions
	Social Disruptions

Table 4. Eden District Municipality 2005 and 2014 Identified Hazards

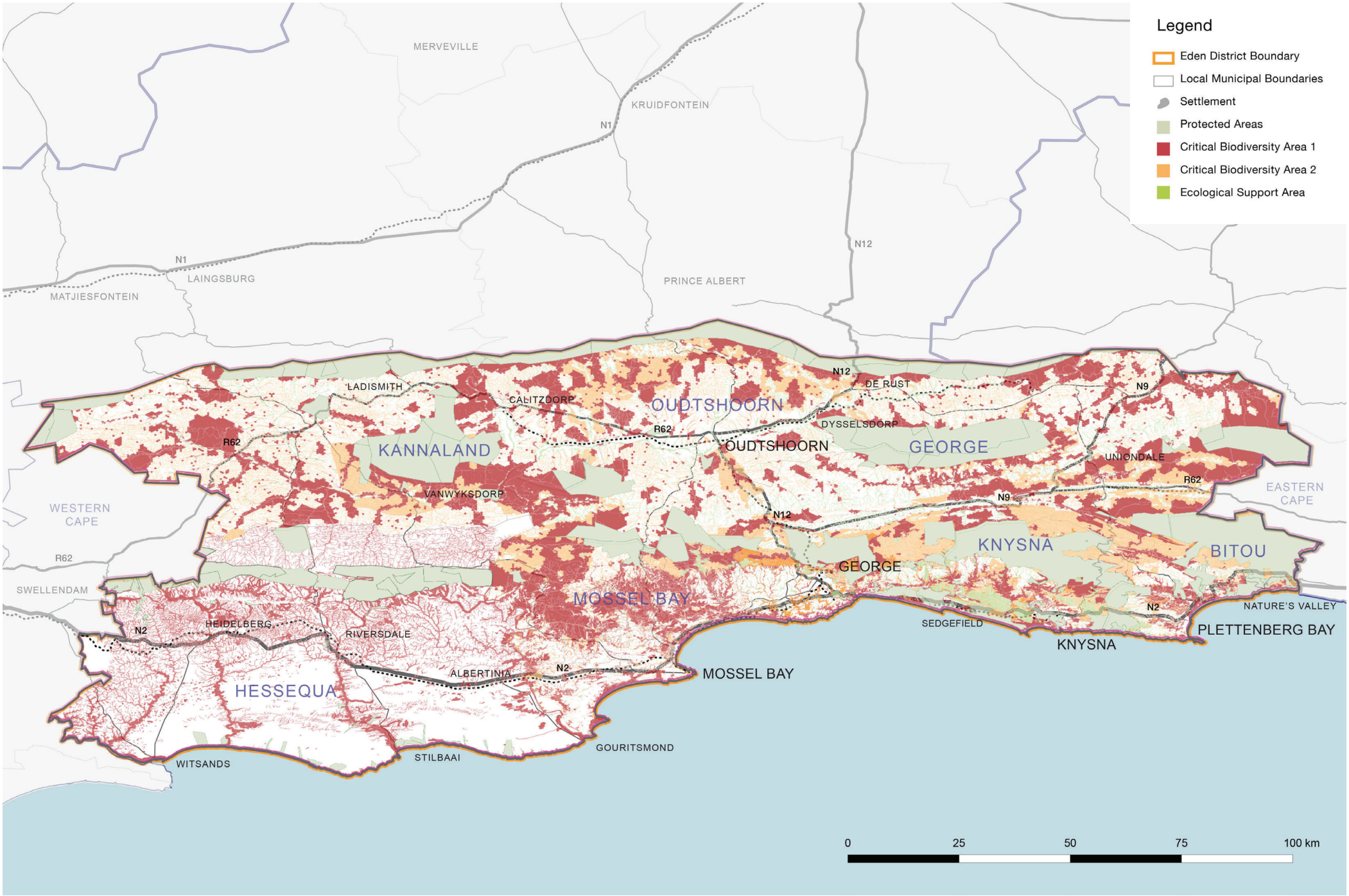


Figure 31. Critical Biodiversity Areas in the Eden District

the seven local municipalities, Hessequa has the lowest gas emissions; whereas. Oudtshoorn and Mossel Bay emit the largest amount of gas within the Eden District (Eden District Municipality, 2013). This is a result of heavy industry and noxious trades within these larger municipalities. Other factors that may contribute to an increase in poor air quality in the District include:

- The expansion of airports;
- The influx of people in Eden District and increase in motor vehicle emissions;
- The increase of biomass burners,
- The change of raw material with less cleaner imported raw material or feedstock of heavy industries.

3.4.5. Future Economy and Environment Spatial Risks and Prospects

What spatial aspects of the environment and economy do we need to anticipate and plan for in the future?

3.4.5.1 The Environment

The area will undergo a shift to more irregular rainfall undermined by drier conditions. More frequent and large scale droughts and flooding will put a further strain on the already critical water scarcity that Eden District is currently experiencing. It is also expected that more intense and deeper cold fronts will occur and with greater frequency of extreme rainfall events. High-risk areas, predominantly closer to estuaries and lagoons, include Hartenbos, Klein Brak, Wilderness, Sedgefield and the Groot Brak and Kaaimans River. Planning is required for the prevention of disasters and health risk associated with estuary flooding and water quality problems.

There is a general trend of drying between Bitou and Mossel Bay, south of and including the Outeniqua Mountains that is most noticeable during the summer months of January and February. In contrast there is a pattern of an increase in precipitation between Mossel Bay and Stillbaai and north of the Outeniqua Mountains during the months of March, April and May.

The Eden District coastline is at medium to high risk of erosion, inundation, groundwater contamination (increased salinity) and extreme events. The areas with the greatest overall average risk include: Sedgefield-Swartvlei lagoon; Wilderness East and Wilderness West; Knysna; Bitou; Hartenbos; Keurbooms-Bitou; Nature's Valley; Klein-Brakrivier; Groot-Brakrivier; Walker's Bay and Mossel Bay, as well as Hessequa and Stilbay (DEA&DP 2010). The highest risk periods are during winter months when storm events, due to passing frontal systems, are more likely.

3.4.5.2 Economic Vulnerability to Climate Change

The Eden District Disaster Risk Assessment points out that the District is particularly vulnerable with regard to food, water and energy supplies and these in turn increase the District's vulnerability to climate change and its ability to bounce back after an extreme event that may affect these resources. A conceptual depiction of environmental risks is illustrated in Figure 35.

The economic impacts of climate change in the District may include the following:

- Reduced food production;
- Increase in food prices;
- Loss from dairy and livestock production;
- Increase in livestock mortality rates;
- Disruption of reproduction cycles;
- Increase in unemployment;
- Loss to recreational / tourism industry; and
- Loss to industries directly dependent on agricultural production (e.g., fertilizer and animal feed manufacturers) (Laskey, 2013).

The Disaster Risk Assessment further points out that the already tightening water supply situation in the District area is very vulnerable to periodic drought. Vulnerable groups in the District include:

- Farmers (smallholders and commercial) particularly in Uniondale, Ladismith, Oudtshoorn and Hessequa areas. Low rainfall and soil moisture conditions in the Western Cape will reduce fruit, wheat and barley crops.
- Domestic water supplies to the areas of George, Haarlem, Ladismith, Knysna, Mossel Bay, Oudtshoorn, Plettenberg Bay and Sedgefield. In this regard only Mossel Bay, George, Haarlem and Oudtshoorn has sufficient water storage capacity for domestic use.
- The urban poor's vulnerability will increase due to rising food prices.
- Poor, rural households whose livelihoods depended (directly or indirectly) on agriculture are particularly under pressure.
- Casual farm labourers can potentially face longer periods of unemployment.
- Similarly, farm worker livelihoods become increasingly precarious due to a contraction in agricultural labour requirements and, second, by lack of access to formal social protection and social relief.
- Emerging farmers who may have limited capacity, resources and skills to adapt to and withstand economic pressure.
- Those that are already under economic stress economically as a result of land degradation, loss of biodiversity, and those at (or close to) the threshold of their climate tolerance.
- There are instances (e.g. in Haarlem) where socio-economic vulnerability is compounded by insufficient access to water (for irrigation and livestock) and further amplified by poor access to fodder and livestock inoculation; and

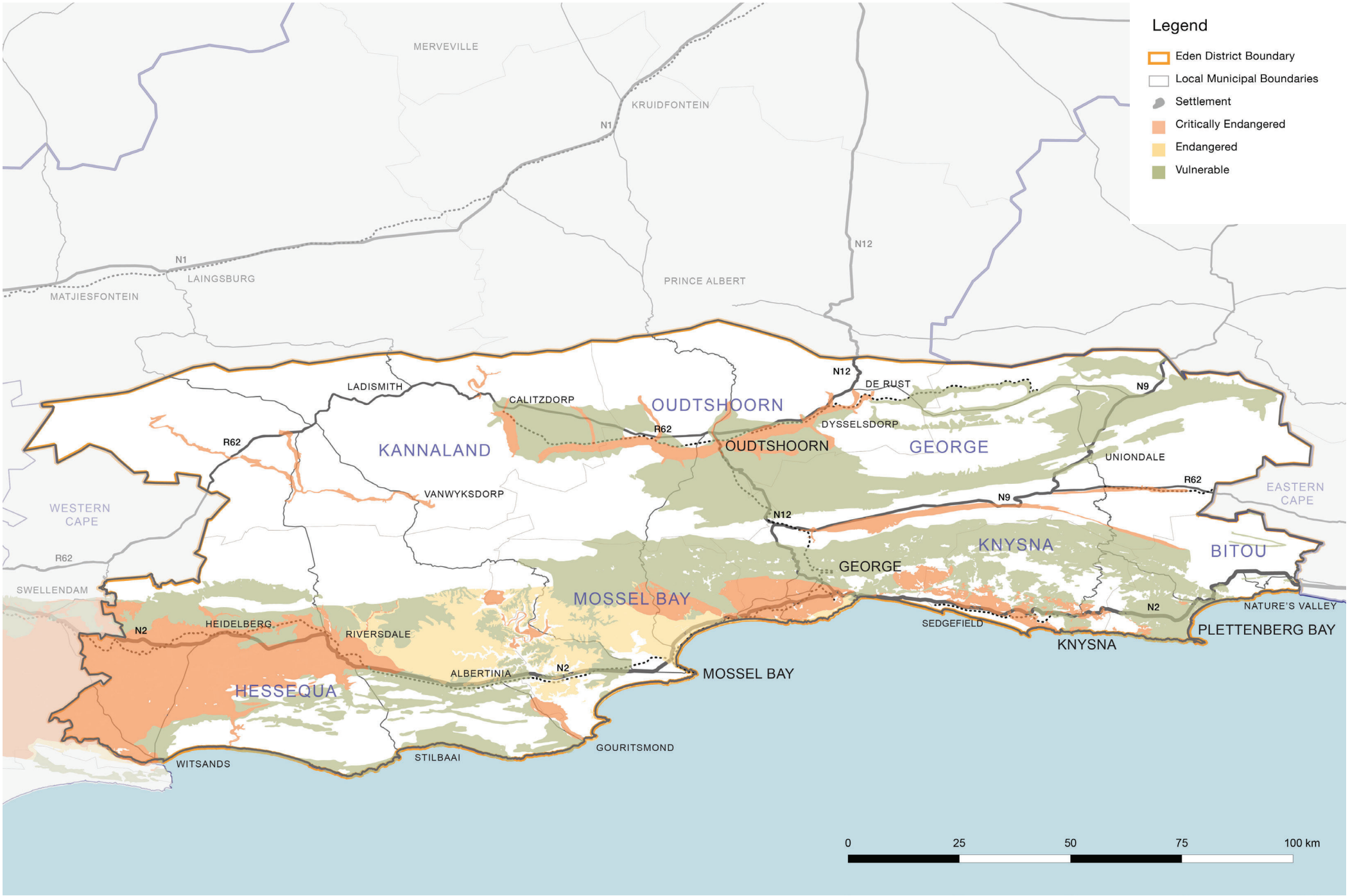


Figure 32. Ecological Status in the Eden District

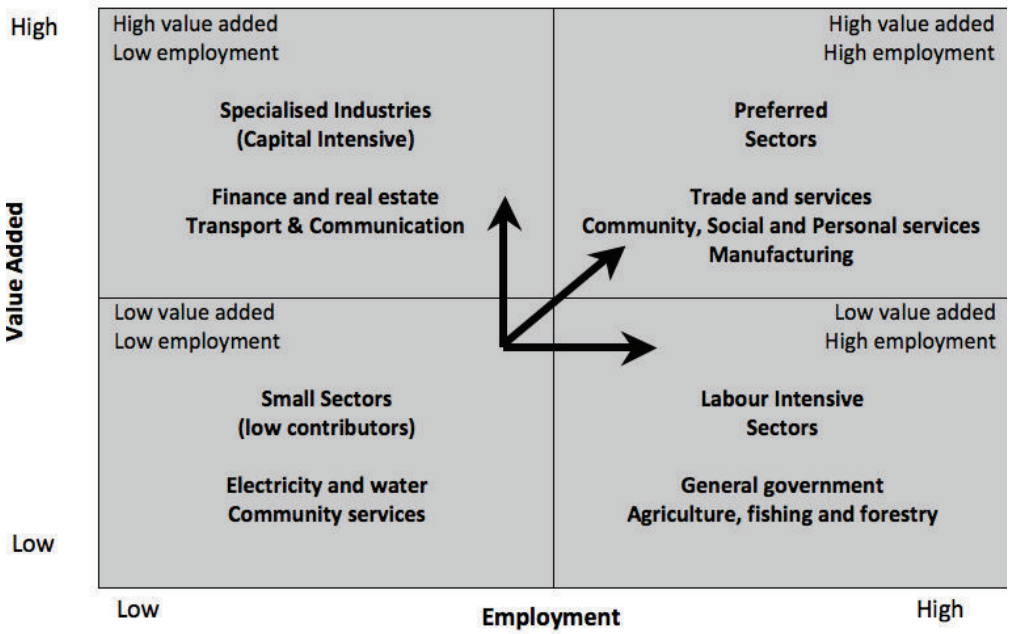


Figure 33. Economic Sector Performance Profile of the Eden District Economy for Value Added Relative to Employment

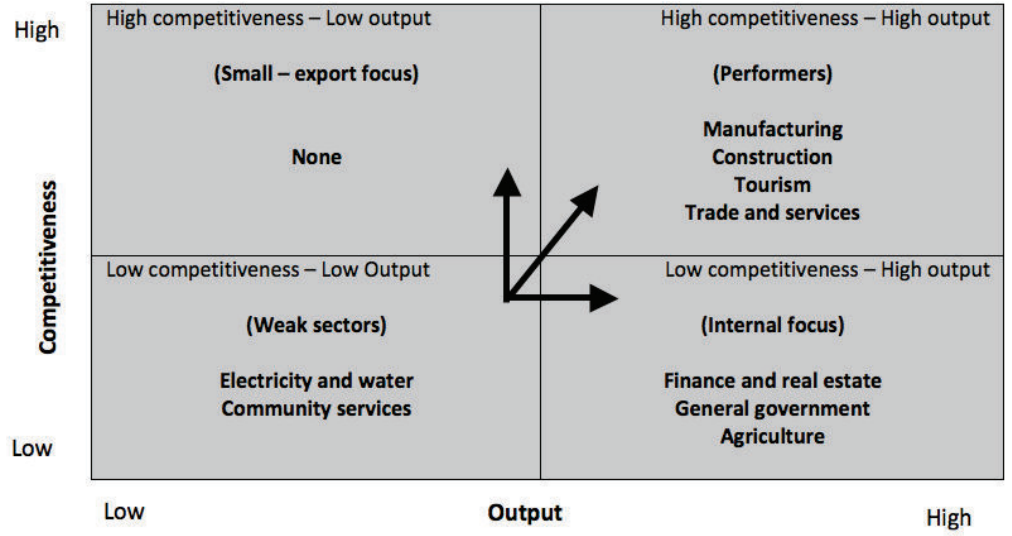


Figure 34. Economic Sector Performance Profile of the Eden District Economy for Competitiveness Relative to Production Output.

- Agri-businesses that is dependent on the export market (Laskey, 2013).

Water scarcity will have to be considered before developments can be approved. In this regard cognisance should be taken of the contents of the Department of Water Affairs report Project No WP9714 “Development of Reconciliation Strategies for all Towns in the Southern Planning Regions, September 2011” (Laskey, 2013:18).

3.4.5.3 The Economy

Agriculture is sensitive to variable weather conditions within and between seasons. Subsistence, emerging and small holder farming systems are expected to be at high risk due to their poorer access to irrigation water and technologies, financial support and other resources. Any adverse impacts on the agricultural sector and its extensive value chain and the employment it offers could heighten levels of poverty, drive urbanisation and increase food insecurity, thus increasing pressure on social services. The good news is that on a production level, agriculture in Eden District shows fairly high levels of adaptive capacity, with only a few commodities likely to come under direct threat due to moderate warming or other climate change impacts and this is likely to remain the coolest region of the province.

Figure 34 considers the competitiveness of sectors in Eden District economy to the production output of the specified sector. The aim of this assessment is to focus on developing the sectors of the Eden District economy that could be considered as performers as highlighted in Figure 33. Analysis suggests that electricity and water and community services would offer the Eden District area very little in terms of output and competitiveness and are considered weak sectors. The performing sectors of the local Eden District economy in terms of high output and high competitiveness need to include the secondary activities related to manufacturing and construction and tertiary sector activities of trade and services, including tourism and the sale of perishable and non-perishable products. This links back to the importance of the natural assets and agriculture and forestry and their importance as labour-intensive sectors.

Agri-processing has been identified as a strong potential growth area in the province and is supported by the national initiative to create agri-parks. National Department of Rural Development and Land Reform have indicated that an agri-park will be developed in Oudtshoorn, with farmer production support units located in Dysselsdorp and Haarlem. The main commodities selected for inclusion into the Eden District Municipality’s agri-park for immediate focus are fruit and vegetables (including vegetable seeds and possibly flower seeds), as well as honeybush tea and lucerne.

The District Local Economic Development (LED) Strategy identifies agriculture opportunities such as horticulture, and expansion of existing production in essential oils, honey, and live-stock and poultry farming, and aqua farming (fish) or aquaculture.

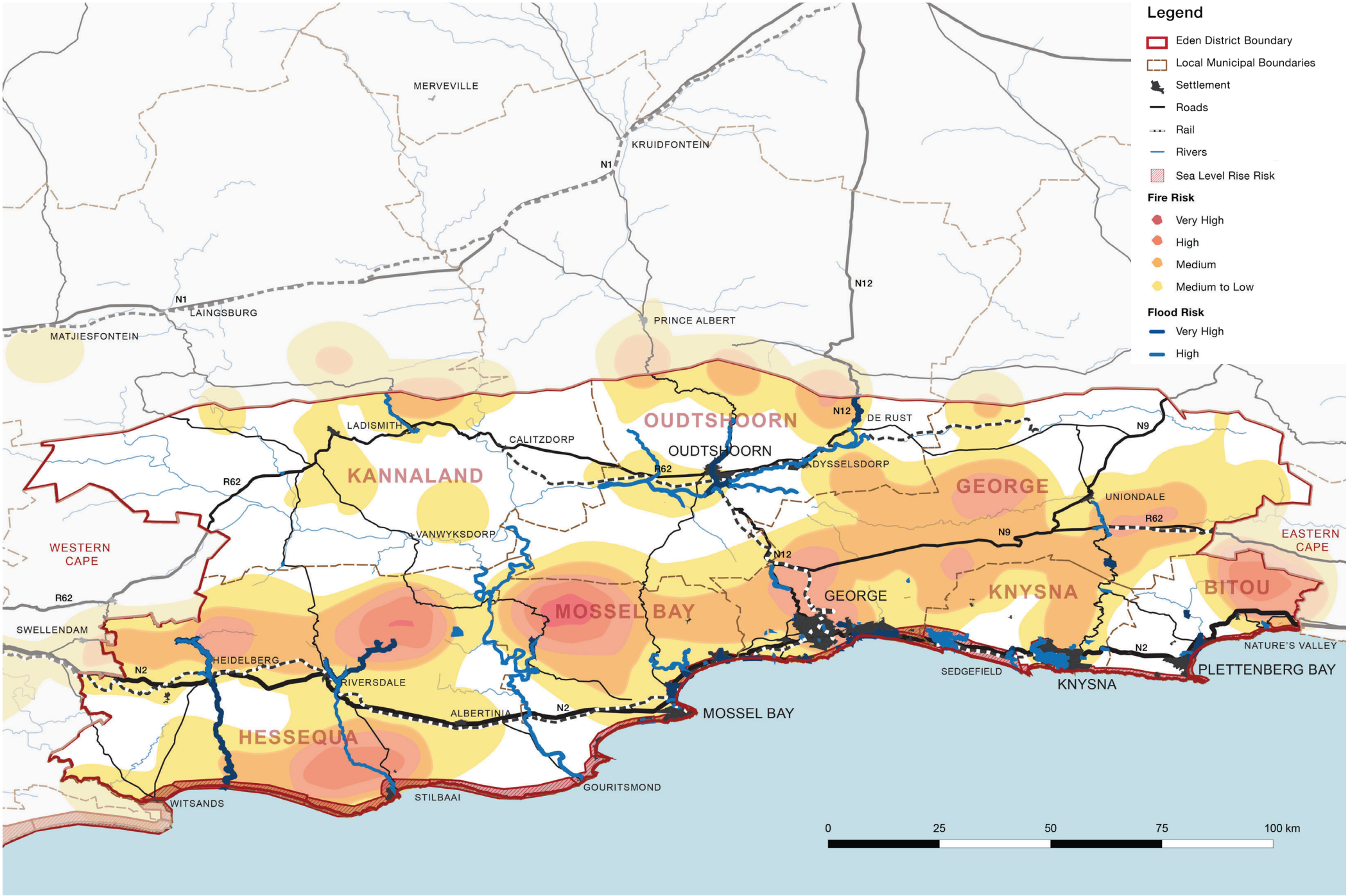


Figure 35. Disaster Risk in Eden District (adapted from Eden District Municipality, 2014)

3.4.5.4 Resources

Demands made by economic and population growth and climate change are clearly impacting on the ability of the local natural resources to supply the economy with water, energy and land - these resources must be used sparingly and efficiently for them to continue to sustain the economy.

Species loss could rise due to an increase in extreme weather conditions such as floods, fires and droughts. In turn an increase in alien vegetation will exacerbate natural fires. These fires will potentially have a knock on effect on employment and the economy through loss of farms, farmland and property (Figure 37). The Eden District Integrated Biodiversity Strategy (2016) notes that significantly more conservation areas are needed to conserve a minimum representative sample of Eden District's environmental assets.

The District's natural resource base also clearly presents opportunity for new growth in the agricultural, conservation tourism and the renewable energy sectors. These sectors in turn present opportunities for employment.

3.4.6. Implications for the SDF

An updated SDF needs to consider the following spatial implications of managing the environment and the economy framed by the district scale and mandate. The spatial concept must identify what actions should be reflected in the SDF in order to:

1. Redress past economy and environment legacy issues mistakes;
2. Address current environment and economy challenges and optimise current opportunities;
3. Mitigate any future environment and economy risks and optimise future opportunities.

3.4.6.1 Biodiversity and Natural Resource Management

The SDF will need to realise the intrinsic and economic value of the regions biodiversity and natural resources and consider hazard zones that buffer settlements and natural areas, as well as provide clear guidance on land use management of the District's biodiversity assets.

Appropriate land use of CBA and Ecological Support Areas (ESA) and Spatial Planning Categories (SPC) could contribute to environmental ecosystem rehabilitation, protection and enhancement. This must be integrated, where relevant with CapeNature and the Garden Route National Park and their expectation of functional conservation corridors within Priority National Areas.

3.4.6.2 Integrated Coastal Management

The use of coastal management lines is a particularly important response to the effects of climate change, as it involves both a quantification of risks and pro-active planning for future development. Although it cannot address historical decisions that have locked in development investment along potentially at-risk coastal areas, Coastal Management Lines (CML) (setbacks) can influence how existing development is maintained over time and how new development will be allowed to proceed in order to protect natural resources whist realising tourism potential. Alignment of disaster risk management areas in the Eden District with the Western Cape Government's CMLs must be facilitated.

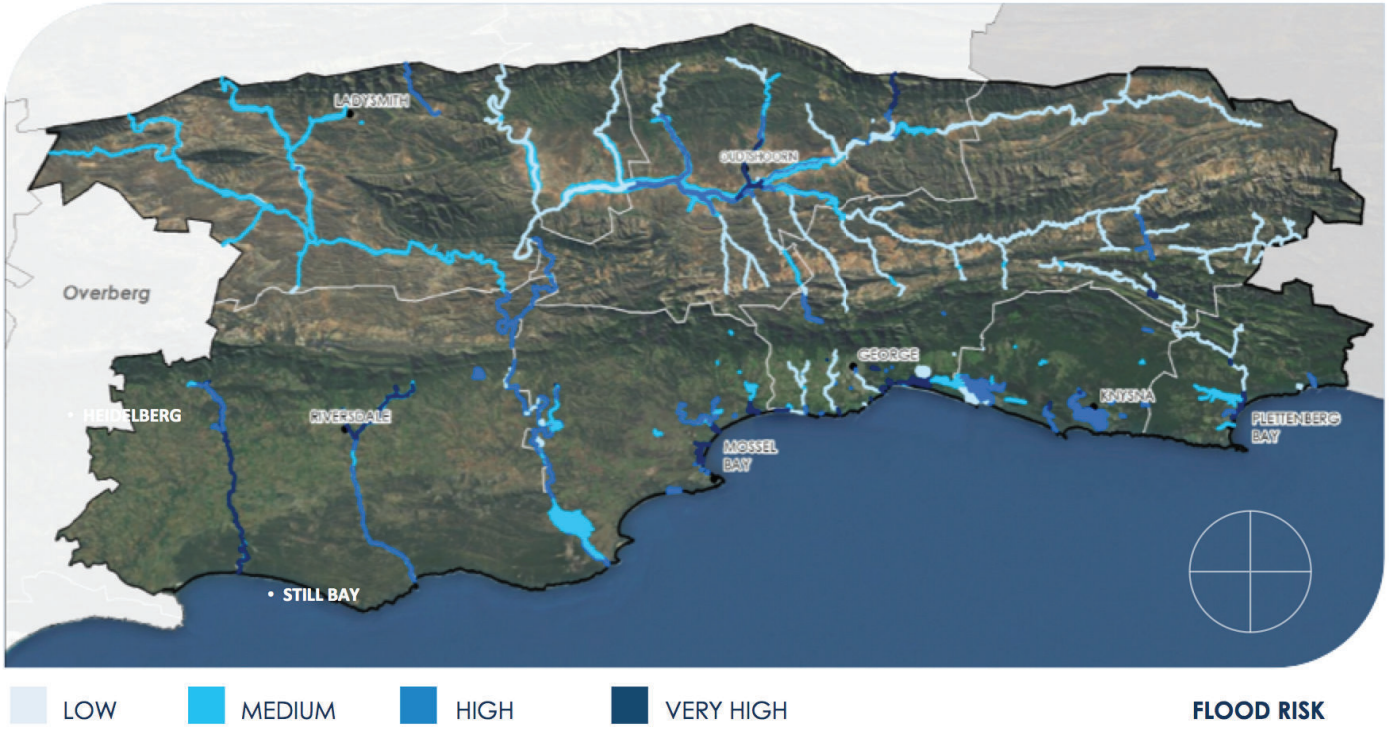


Figure 36. Flood Risk in the Eden District (Source: DEADP, 2016)

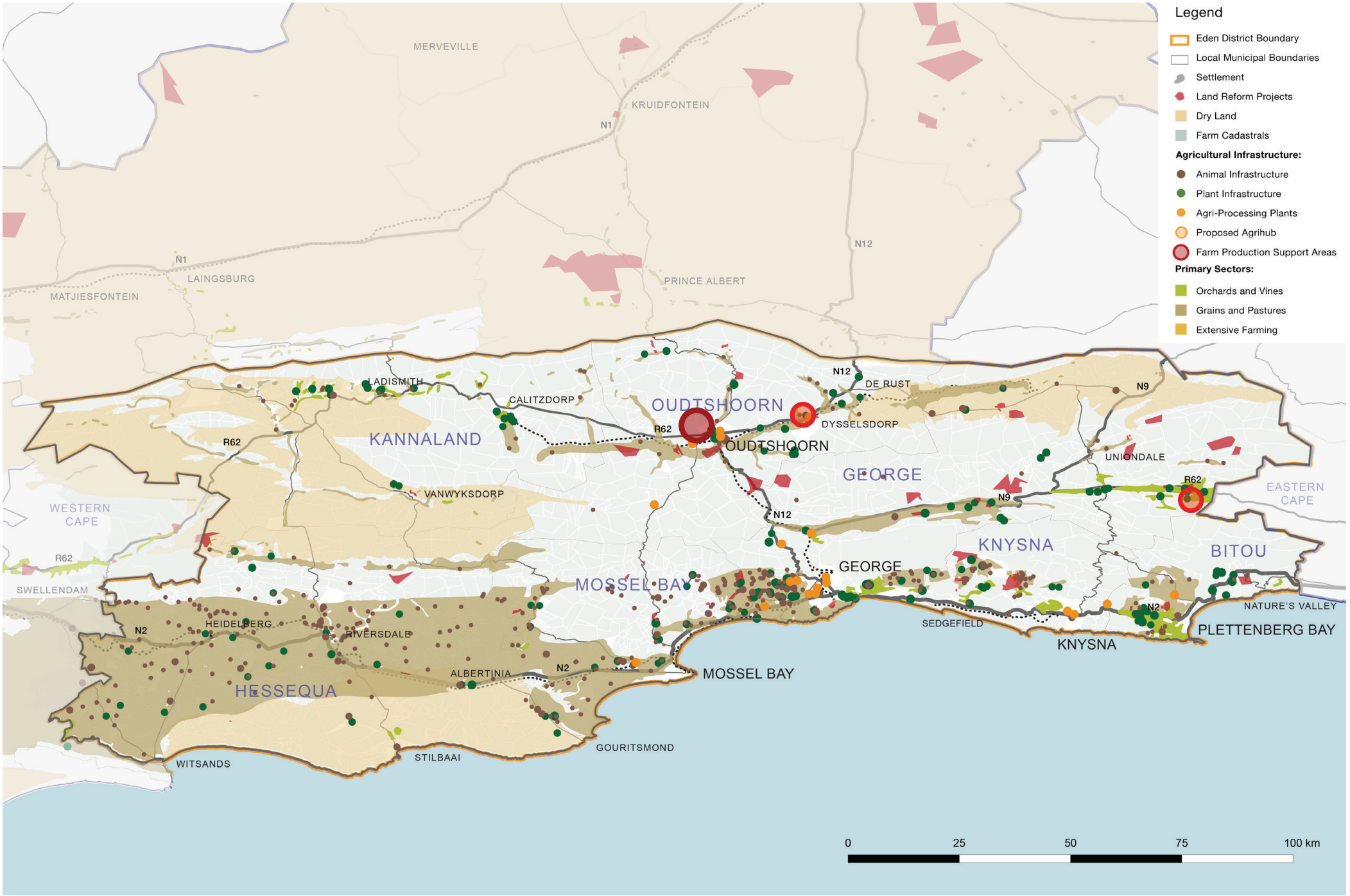


Figure 37. Agriculture in Eden District

3.4.6.3 Co-ordinated Floodplain and Storm Water Management

Until recently, storm water infrastructure in the Eden District had not been assessed. The 2004 and 2006 floods highlighted the importance of this infrastructure and the need to access it. Most municipalities have fallen behind in their storm water (macro and micro) master planning, with only Mossel Bay, Oudtshoorn and Eden District having some master plans and Hessequa Municipality being in the process of undertaking their master plan. These plans should be prepared within the context of clearly defined wetlands, flood plains and flood lines (Figure 36).

The conservation of biodiversity, and specifically water resources, is becoming more important in the context of climate change. There is an opportunity to devise strategies to protect ecosystems through good land use planning.

3.4.6.4 Integrated Bush and Veldt Fire Management

Poor control of alien invasive species dramatically increases fire risk in the District. It should also be noted how inappropriate, poorly timed fire burning regimes increases the risk of fires. When land owners do not burn fynbos at the correct intervals, the increase in fuel load increases the fire risk and indirectly lowers the biodiversity value of the unit. A reference for obtaining details regarding such information is the Fynbos Forum Ecosystem Guidelines for Environmental Assessment in the Western Cape (2016).

3.4.6.5 Sustainable Agriculture

Farming systems that restore and rehabilitate croplands, rangelands and build up the soil carbon and soil water holding capacity, can contribute to reducing carbon in the atmosphere. Conservation agriculture has already been widely adopted in parts of Eden District and holds huge potential for both mitigation and adaptation (particularly stemming from the loss of topsoil and increasing soil water holding capacity). This approach can provide increased resilience if its uptake can be increased in Eden District, especially in terms of pasture systems for milk production.

3.4.6.6 Agricultural Land

Efforts must be increased to protect agricultural land that holds long term agricultural, employment and food security value, especially since this is the coolest region of the province and will remain so in future. The agricultural Gross Value Added (GVA) to the District's economy is shown in Figure 38. The agricultural value chains need to be understood and bolstered by enhancing connections between rural and urban areas and developing ways to stabilise agricultural sectors. Increasing pressure for largely high income, low-density development on agricultural and forestry land will continue to undermine food security and the characteristic landscapes of great beauty and tourism potential. Criteria on approval of development applications for new settlement In remote rural locations are needed.

3.4.6.7 Forestry

Notwithstanding the vulnerable nature of the forestry sector, the potential value of the timber value chain is clearly a competitive advantage for the District. This could offer employment opportunities matched to the skills level generally typical of work-seekers.

3.4.6.8 Sustainable Resource Use

Building the green economy to promote resource security is a central pillar of the Western Cape's economic development strategies. The low skills entry of "green jobs" offers real scope to address unemployment within the region. The SDF needs to identify how spatial considerations can contribute to the integration of development and inclusive growth within real infrastructure capacity limits. Green development principles are underpinned by the notion of self-reliance.

3.4.6.9 Waste and Energy

There is great need to reduce waste in Eden District so as to mitigate against the challenges of landfill sites, as it is unsustainable to provide waste collection and recycling services in rural areas. Residents in the District will be required to pay large costs to transport waste to another landfill. Hence, there is need to consider alternate forms of integrated waste management. The District should strategically move towards a sustainable waste management system whereby the focus will shift to the avoidance and reduction of waste rather than to the disposal thereof. Waste-to-energy initiatives should be considered.

In addition, the climate and proximity to the national power grid, means that the Oudtshoorn and Kannaland areas offer real potential for energy security projects in the form of either solar or wind energy. The municipality of Oudtshoorn has received a private application to develop a solar voltaic plant. The solar voltaic plant will generate electricity to be sold to the national grid as part of renewable energy project. If this project were to be implemented it would have the potential to positively impact on the local economy of the area (Oudtshoorn Municipality, 2015). This could create employment opportunities in the renewable energy sector and improve the ecological resilience of the region.

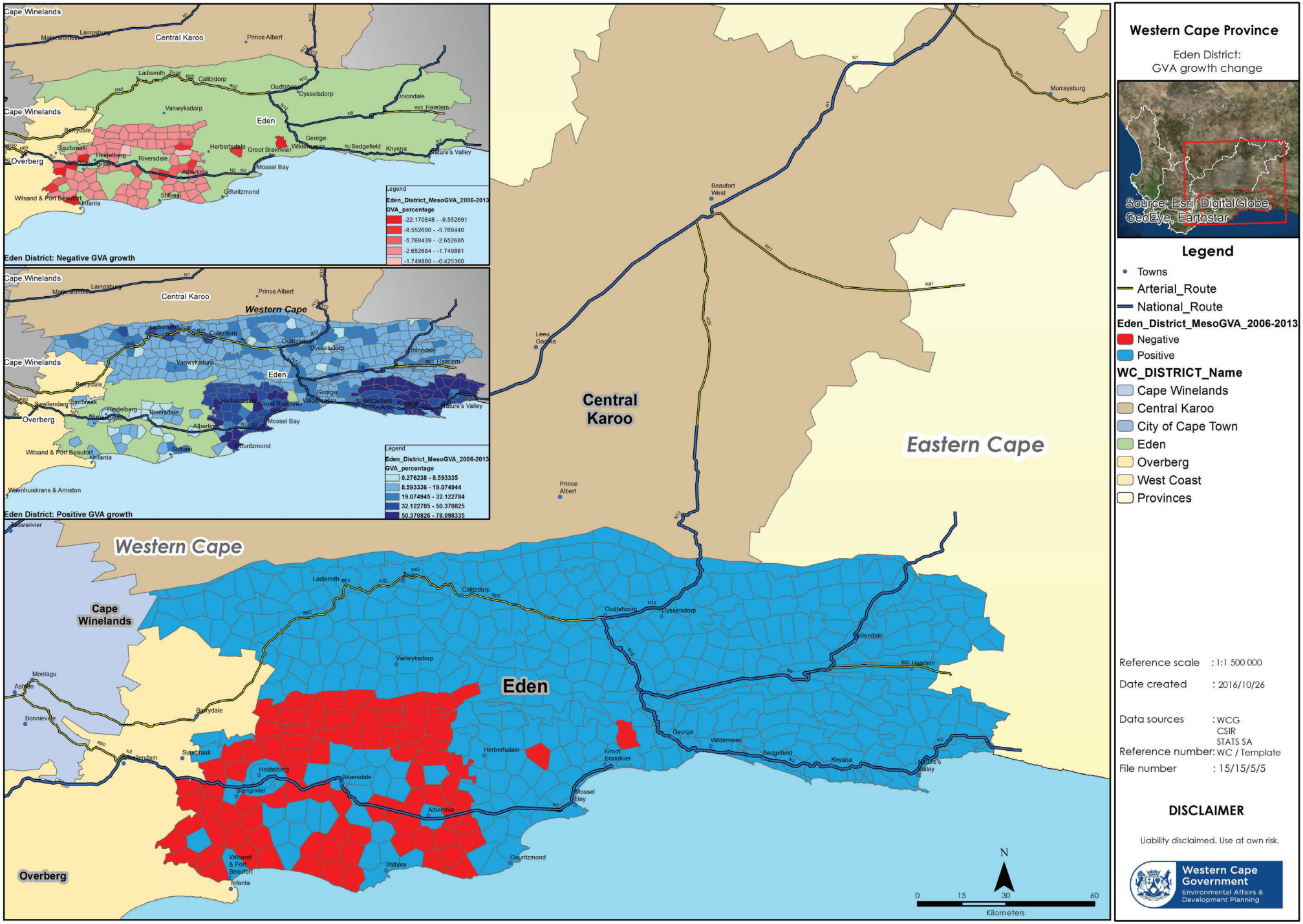


Figure 38. Agricultural GVA to Economy Map

3.5. Regional Accessibility for Inclusive Growth

In Eden District improved regional and local accessibility is essential to achieving inclusive growth

3.5.1. Overview

Socio-economic inclusion and how this fosters and supports economic growth is closely tied to the notion of accessibility. In this context, accessibility can be understood conceptually to include the following elements:

- The physical regional and local transport networks that enable people, services and economic activities to travel and connect to one another efficiently, affordably and safely on a routine basis and in the case of extreme events or disaster;
- The configuration of these networks and how this determines their role and in turn the potential role of towns and villages depending on how they are positioned in the hierarchy of this network;
- The virtual networks that can bring opportunity and services to where people live that will, in this digital age, assist to overcome the barriers of physical distance and the inherent costs of overcoming this distance in the context of a district navigating a rural and urban economy;
- The form of development opportunities that enables affordable, efficient and low carbon access by virtue of its location, density and intensity of use;
- Strategic economic infrastructure that competitively connects the regional economy to the rest of the country and the world.

Poor accessibility can impose a cost on households and economic actors that can restrict growth and development or disincentivise investment entirely. At the same time, if it works well it can catalyse significant change and open up opportunities. Importantly, depending on how enabling infrastructure is planned, designed and managed, it can work well for some and not for others. As a result, this can further exacerbate inequity and exclusion from the economy and place constraints to growth. This manifests in space in a way that imposes long term costs for the District. Or it can facilitate real inclusion and sustainability; for example, from the perspective of transport infrastructure, if people spend less of their time and money traveling to work, they are able to spend more time with their families and they will have more disposable income to invest in further education, a business or educating themselves or their own children.

Importantly, in the context of district spatial planning, these accessibility systems need to be understood at the regional and local scale. In the case of the urban transport system, this deals mainly with the movement of people and goods within a town. The regional system deals with the movement of freight and passengers between towns, as well as to towns, cities and regions outside of Eden District. Freight includes goods produced or delivered in the area, as well as some that pass through. Passenger movement includes social and economic trips. At a regional scale, this also includes rural trips (which do not start or end in a town), and includes largely agriculture and tourism related voyages.

3.5.2. Accessibility Legacies

What are the spatial implications of accessibility challenges and assets have been inherited from the past?

3.5.2.1 Transport Accessibility Network

Eden District has an extensive transport distribution network (Figure 39). The transport accessibility network includes the following:

- National roads connecting it to surrounding provinces and the national grid;
- Provincial and local road networks;
- Airports that connect the District with the national network, as well as several airfields and landing strips;
- Airport that is part of the national network of ports as well as fishing and small craft harbours;
- Significant, albeit largely dormant, railway infrastructure in the western part of the District.

3.5.2.2 Hierarchy of Towns and Inter-town Passenger Movement

The configuration of the regional transport accessibility network has a direct bearing on the role of towns and villages within the regional space economy. At the same time, regional economic competitive advantage is constrained by lack of clarity on the economic roles of towns and the corresponding lack of supporting legibility in the hierarchy of the regional accessibility network.

The hierarchy of towns refers to the degree to which primary, secondary and tertiary activities take place within each town. A town like George houses a great deal of specialised services, such as tertiary hospitals and university campuses. Whereas, a small village would only cater for activities like basic education and daily food retail. These activities in turn can shape and be shaped by the hierarchy of transport networks that serve these towns and the position of the road within the hierarchy and the associated way in which this infrastructure is managed and the land use alongside it.

It becomes problematic for a community if all basic services cannot be accessed within a village or town. Very often this occurs when the demographic and (economic) potential does not warrant or sustain institutional or business activities. Some of these activities include primary and secondary schools, libraries, clinics, banking facilities and fresh food. In such cases, community members' must travel to neighbouring towns on a regular basis, increasing the cost to access basic services. In reality, the cost of such trips are prohibitive, leaving communities spatially trapped or dependent on private, informal and infrequent services. Examples of such villages and hamlets in the Eden District include, to a greater or lesser degree, places like Zoar, Calitzdorp and Dysselsdorp.

As it is impractical for all community members to travel to neighbouring towns often, transport services are often

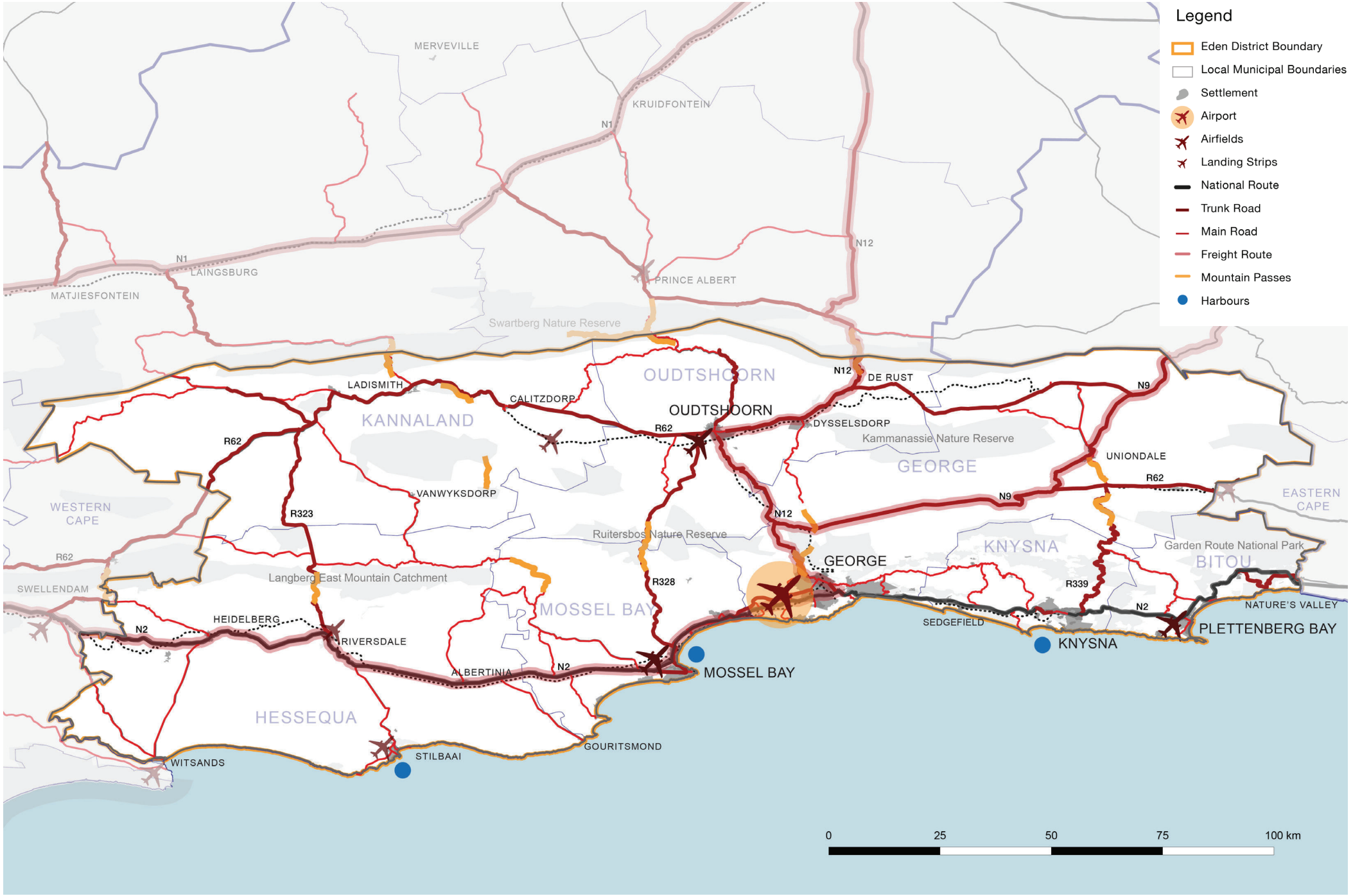


Figure 39. Transport, Freight and Aviation in Eden District